

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

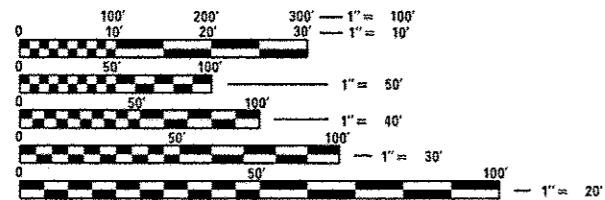
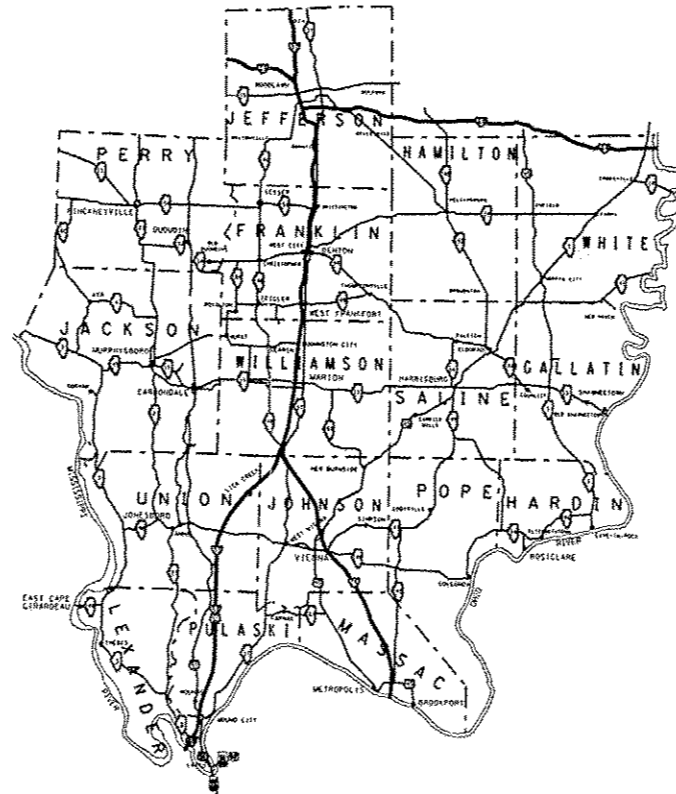
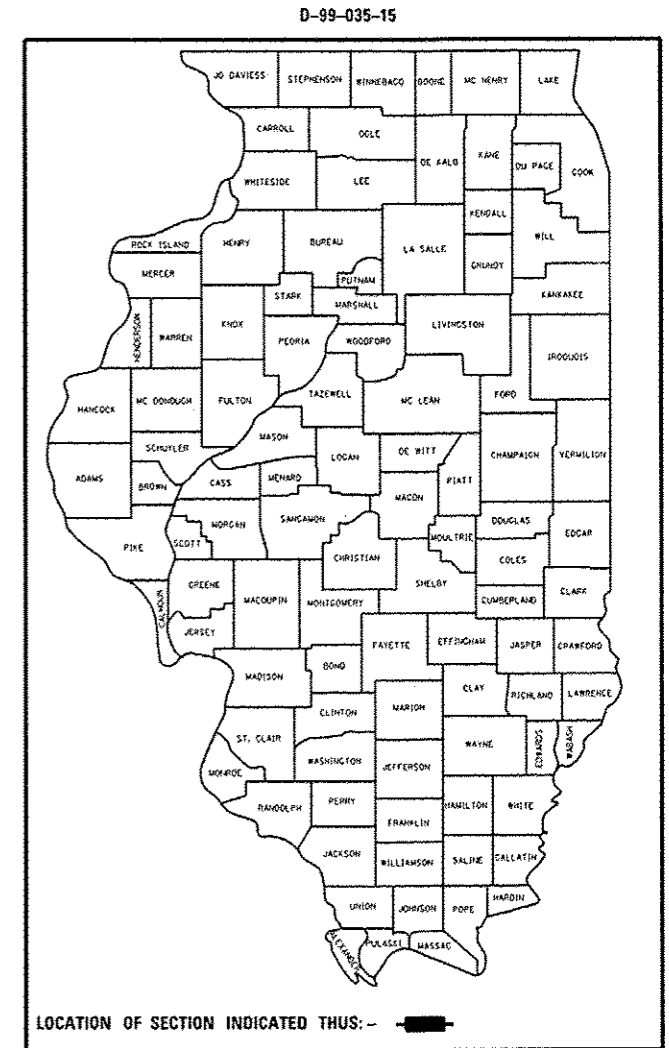
VARIOUS ROUTES
SECTION D9 GUARDRAIL REPAIR FY16-1

VARIOUS COUNTIES

C-99-043-15

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY 16-1	VARIOUS	20	1
		ILLINOIS	CONTRACT NO. 78475	

FOR INDEX OF SHEETS, SEE SHEET NO. 3



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER SUSAN POE
PROJECT MANAGER SUSAN POE

CONTRACT NO. 78475

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED May 8 20 15

Jeffrey Keen
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

John D. Baranzelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

June 26 20 15

Cher Coman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

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Examined By: *Keel Miller*
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Examined By: *[Signature]*
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By: *Douglas J. [Signature]*
DISTRICT CONSTRUCTION ENGINEER

Examined By: _____
DISTRICT MATERIALS ENGINEER

FILE NAME * p:\N\1804E810INTEG.Illinois.gov\PI\DOT\00	USER NAME * poest uments\DOT Offices\District 9\Projects\Geo	DESIGNED * _____ DRAWN Date\Geometric\G\Susan's Files\gpo	REVISED * _____ REVISED _____	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SIGNATURE SHEET		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
PLOT SCALE * 100.0000' / in.	CHECKED * _____	REVISED * _____	REVISED * _____		SCALE: _____	SHEET _____	OF _____	SHEETS	STA. _____	TO STA. _____	VAR 09 GUARDRAIL REPAIR FY16-1	VARIOUS	2	20
PLOT DATE * 4/15/2015	DATE * _____	REVISED * _____	REVISED * _____		ILLINOIS FED. AID PROJECT CONTRACT NO. 78475									

INDEX OF SHEETS

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1	COVER SHEET
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15 - 17	DETAIL - TRAFFIC BARRIER TERMINAL, TYPE 6A PRIOR TO JANUARY 1, 2007
18 - 19	DETAIL - TRAFFIC BARRIER TERMINAL, TYPE 6B PRIOR TO JANUARY 1, 2007
20	DETAIL - CRASH-CUSHION ATTENUATING TERMINAL (C-A-T)

STANDARDS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001006	DECIMAL OF AN INCH AND A FOOT
630001-10	STEEL PLATE BEAM GUARDRAIL
630301-06	SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
631011-09	TRAFFIC BARRIER TERMINAL, TYPE 2
631031-13	TRAFFIC BARRIER TERMINAL, TYPE 6
631032-08	TRAFFIC BARRIER TERMINAL, TYPE 6A
631033-06	TRAFFIC BARRIER TERMINAL, TYPE 6B
635001-01	DELINEATORS
635006-03	REFLECTOR AND TERMINAL MARKER TREATMENT
635011-02	REFLECTOR MARKER AND MOUNTING DETAILS
643001-02	SAND MODULE IMPACT ATTENUATORS
664001-02	CHAIN LINK FENCE
665001-02	WOVEN WIRE FENCE
701001-02	OFF ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
701011-04	OFF ROAD OPERATIONS, 2L, 2W, DAY ONLY
701101-04	OFF ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY FOR SPEEDS GREATER OR EQUAL TO 45 MPH
701301-04	LANE CLOSURE, 2L, 2W, SHORT TERM OPERATIONS
701400-08	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-09	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701421-07	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY FOR SPEEDS GREATER OR EQUAL TO 45 MPH
701428	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
701456-03	PARTIAL EXIT RMAP CLOSURE FREEWAY/EXPRESSWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701502-06	URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
701601-09	URBAN LANE CLOSURE, MULTILANE, 1W AND 2W WITH NONTRAVERSABLE MEDIAN
701701-09	URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-04	TRAFFIC CONTROL DEVICES

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, STANDARDS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PROJECT	PROJECT	DRAWN	REVISED			VAR 09 GUARDRAIL REPAIR FY16-1	VARIOUS	3	20		
PLOT SCALE	PLOT DATE	CHECKED	REVISED			SCALE	SHEET	OF	SHEETS	STA.	TO STA.
		DATE	REVISED								
ILLINOIS FED. AID PROJECT CONTRACT NO. 28475											

GENERAL NOTES

BEFORE ORDERING THE IMPACT ATTENUATORS, THE CONTRACTOR MUST CONTACT THE RESIDENT ENGINEER RECEIVE APPROVAL OF THE PROPOSED INSTALLATION.

ALL WORK IS TO BE REPLACED IN KIND OR AS INDICATED ON THE CONTRACT PLANS AND PROVISIONS.

THE LOCATIONS OF THE REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER.

GUARDRAIL WORK WILL INCLUDE ALIGNMENT AS NECESSARY TO RESTORE THE RAIL TO THE ORIGINAL CONDITIONS.

REMOVAL OF DAMAGED MATERIALS WILL INCLUDE DISMANTLING, LOADING, HAULING AND DISPOSAL. THE WORK SITE WILL BE LEFT IN A SAFE AND ORDERLY CONDITION.

THE LIMITS OF THE DAMAGED GUARDRAIL WILL BE MARKED WITH PAINT. THE REPLACEMENT PARTS AND THE QUANTITIES INDICATED ARE WITHIN THESE LIMITS AS MARKED.

REMOVED GUARDRAIL THAT IS NOT REPLACED ON THE SAME DAY MUST BE DELINEATED WITH LIGHTED BARRICADES. NO LOCATIONS WILL BE LEFT WITHOUT EITHER LIGHTED BARRICADES OR RESTORED GUARDRAIL AT ANY TIME.

GUARDRAIL MARKERS SHALL BE ATTACED TO TERMINAL SECTIONS. ALL OTHER MARKERS SHALL BE PLACED AT THE DISCRETION OF THE ENGINEER.

ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE TO BE GIVEN TO UTILITES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J. U. L. I. E. (PHONE: 800 892-0123) OR FOR NON-MEMBER, THE UTILITY COMPANY DIRECTLY.

NO OVERNIGHT LANE CLOSURES WILL BE ALLOWED.

THE CONTRACTOR SHALL BE ADVISED THAT THE GUARDRAIL PAY ITEMS INCLUDED IN THE PLANS MAY BE USED TO REPLACE/REPAIR SPBGR AND TRAFFIC BARRIER TERMINALS FOR THE NEW MIDWEST STANDARD AS SHOWN ON THE HIGHWAY STANDARDS AS WELL AS SPBGR AND TRAFFIC BARRIER TERMINAL INSTALLED PRIOR TO JAN. 1, 2007 AS SHOWN IN THE PLAN DETAILS. NO ADDITONAL COMPENSATION WILL BE ALLOWED FOR UTILIZING THE CURRENT MIDWEST STANDARDS.

COMMITMENTS

NONE

FILE NAME: \\S:\BARRIERS\100\1001\1001.dwg	USER NAME: jgank	DESIGNED: CRAMM	REVISED: REVISOR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PROJECT: 1001 OFFICIAL DISTRICT PROJECTS	CHECKED: [Signature]	REVISED: REVISOR			VAB 09 GUARDRAIL REPAIR (Y16-1)	VARIOUS	VARIOUS	4	20
	PLOT SCALE: 1/8"=1'-0"	DATE: 4/10/2010	REVISED: REVISOR			CONTRACT NO. 10915		ILLINOIS FED. AID PROJECT		
SCALE:					SHEET OF SHEETS STA. TO STA.					

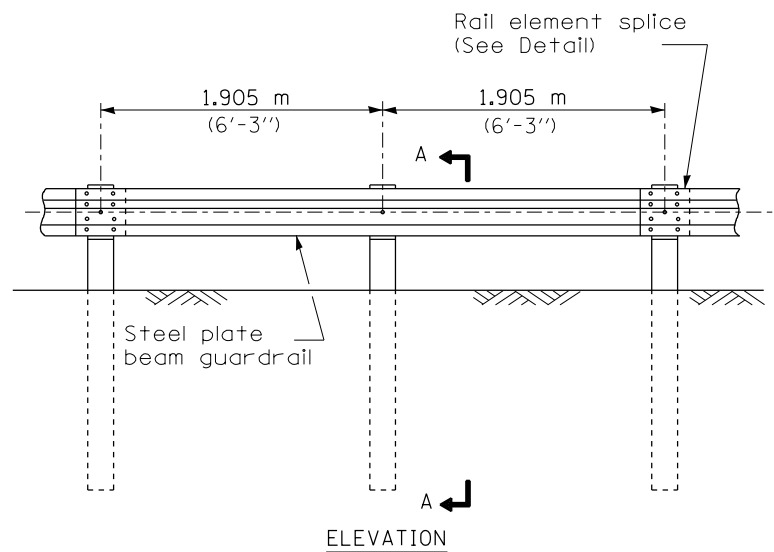
SUMMARY OF QUANTITIES

COUNTY:	VARIOUS
ROUTE:	VARIOUS
FUNDING:	100% STATE

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	100% STATE	
				MCHD 0021	HIT AND RUN 0021
25000100	SEEDING, CLASS 1	ACRE	5	4	1
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	55	50	5
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	4	4	
64300260	IMPACT ATTENUATORS (FULLY REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	4	3	1
64401300	HIGH TENSION CABLE MEDIAN BARRIER TERMINALS	EACH	3	3	
67100100	MOBILIZATION	L SUM	1	0.85	0.15
X0325899	REPAIR HIGH TENSION CABLE (GIBALTAR)	FOOT	100	100	
X0325900	REPAIR HIGH TENSION BARRIER TERMINAL (GIBALTAR)	EACH	2	2	
X0325902	REMOVE AND REPLACE POSTS (GIBALTAR)	EACH	20	20	
X0326201	REPAIR HIGH TENSION CABLE (TRINITY)	FOOT	100	100	
X0326202	REPAIR POSTS (TRINITY)	EACH	20	20	
X0326203	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (TRINITY)	EACH	2	2	
X6300210	GUARDRAIL BLOCKS	EACH	240	225	15
X6300215	RAIL ELEMENT PLATES	EACH	235	225	10
X6300217	RAIL ELEMENT PLATES (RADIUS)	EACH	10	8	2

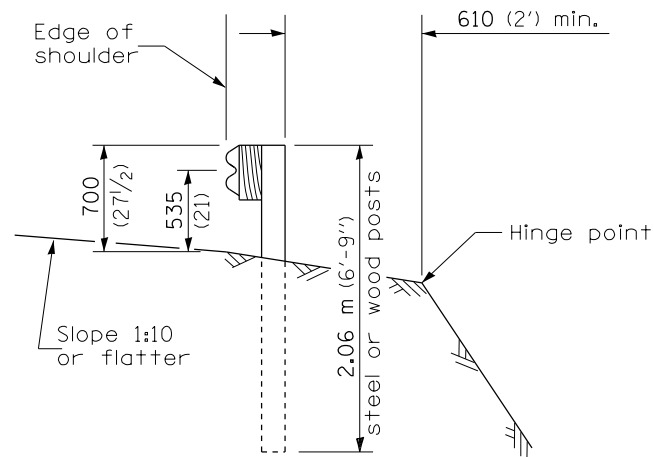
SUMMARY OF QUANTITIES - CONT

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY: VARIOUS	
				ROUTE: VARIOUS	
				FUNDING: 100% STATE	
				MCHD 0021	HIT AND RUN 0021
25000100	SEEDING, CLASS 1	ACRE	5	4	1
X6300220	EXTRUDER HEAD	EACH	4	3	1
X6300230	STEEL POSTS	EACH	240	225	15
X6300231	STEEL POST, ATTACHED TO STRUCTURES	EACH	2	2	
X6300235	WOOD POSTS	EACH	30	15	15
X6310088	TRAFFIC BARRIER TERMINAL TYPE 6A (SPECIAL)	EACH	2	2	
X6310176	TRAFFIC BARRIER TERMINAL, TYPE 2 (SPECIAL)	EACH	2	1	1
X6310214	TRAFFIC BARRIER TERMINAL, TYPE 6 (SPECIAL)	EACH	3	3	
X6311215	TRAFFIC BARRIER TERMINAL (C-A-T)	EACH	3	2	1
X6311217	TRAFFIC BARRIER TERMINAL, TYPE 6B (SPECIAL)	EACH	3	3	
X6331110	STEEL POSTS, SPECIAL	EACH	2	2	
X6430210	REMOVE AND REINSTALL IMPACT ATTENUATORS	EACH	34	30	4
X6640298	CHAIN LINK FENCE (SPECIAL)	FOOT	150	100	50
X6650208	WOVEN WIRE FENCE REMOVAL AND REPLACEMENT	FOOT	100	100	
X7010410	SPEED DISPLAY TRAILER	CAL MO	4	3.5	0.5

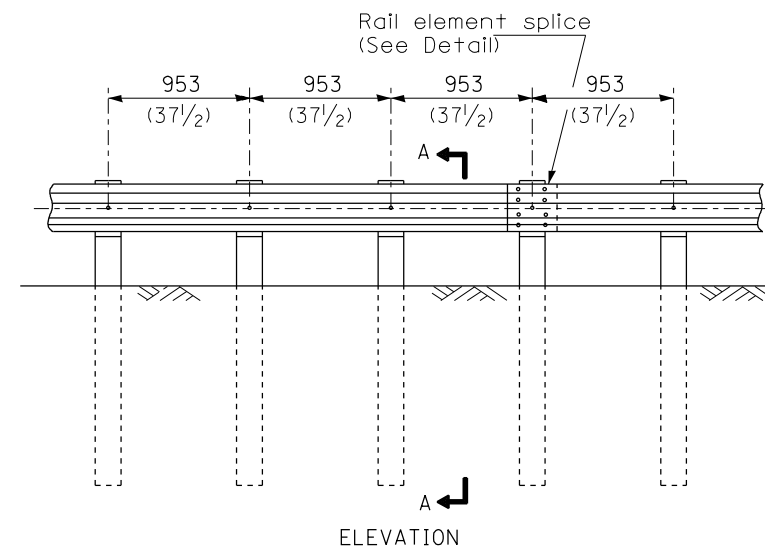


TYPE A

1.905 m (6'-3") Typical post spacing

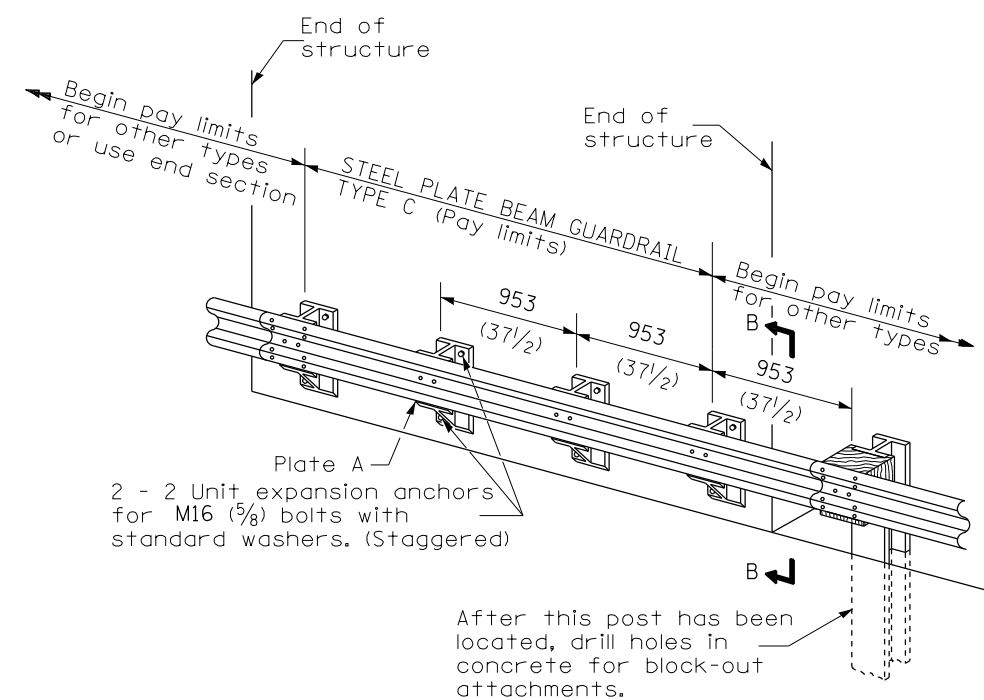


SECTION A-A



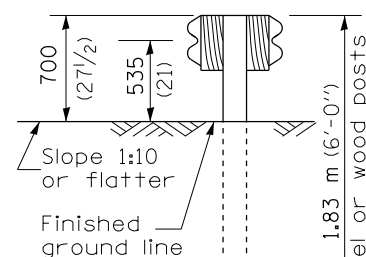
TYPE B

953 (37 1/2) Closed post spacing

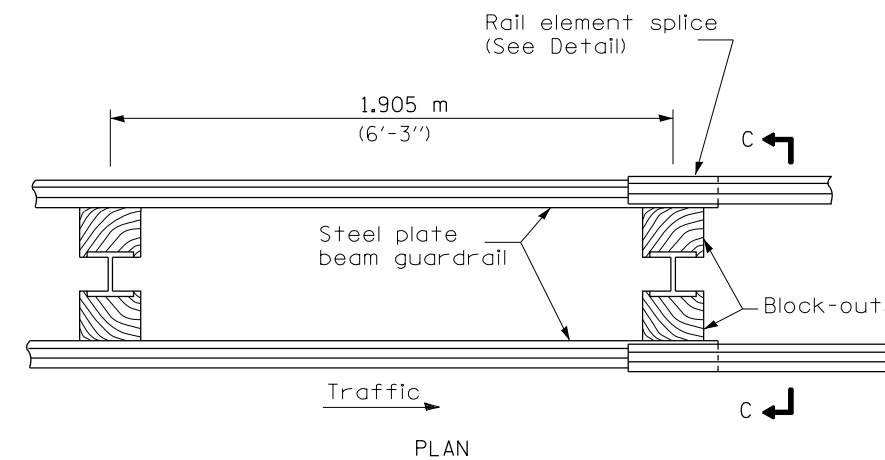


TYPE C

953 (37 1/2) Block-out spacing

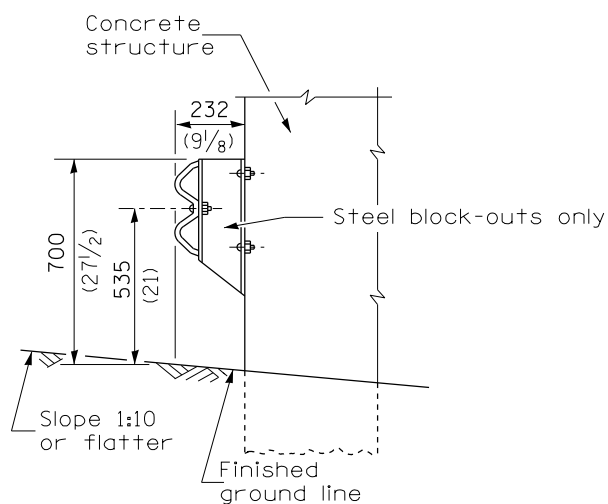


SECTION C-C



TYPE D

Double steel plate beam guardrail
1.905 m (6'-3") typical post spacing



SECTION B-B

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

All dimensions are in millimeters (inches) unless otherwise shown.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

DATE	REVISIONS
4-1-06	Deleted plate washer F.
1-1-05	Rev. post in impervious material on sheet 4.

STEEL PLATE BEAM GUARDRAIL

(Sheet 1 of 4)

STANDARD 630001-06

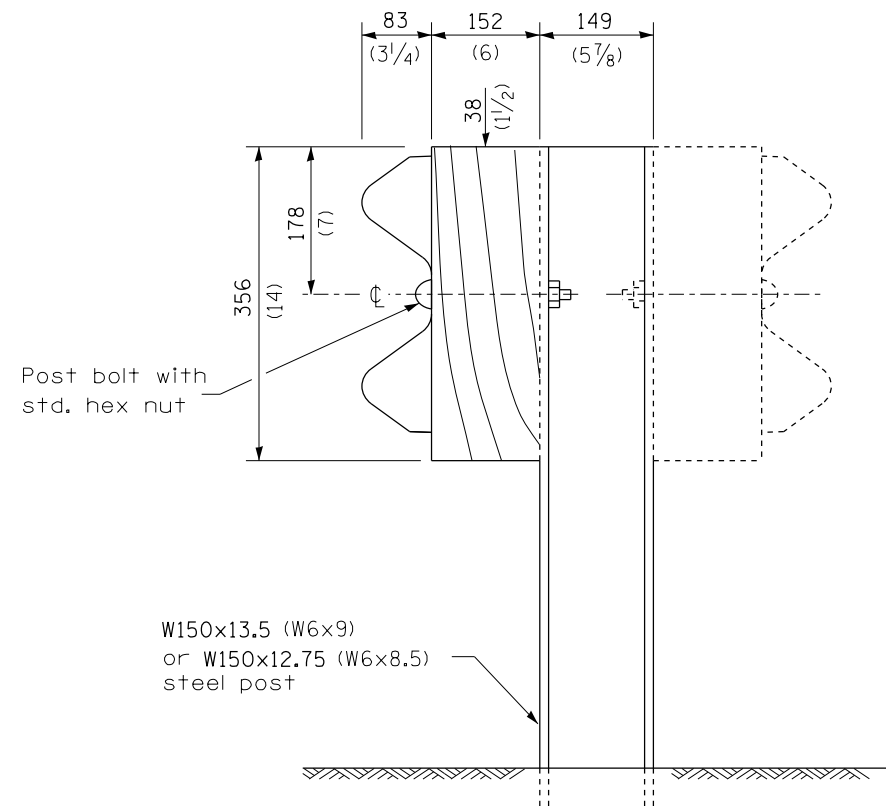
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

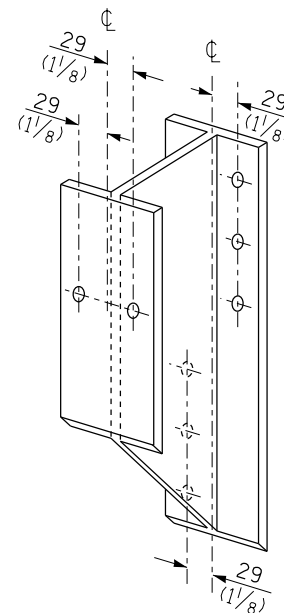
**GUARDRAIL STANDARDS PRIOR
TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

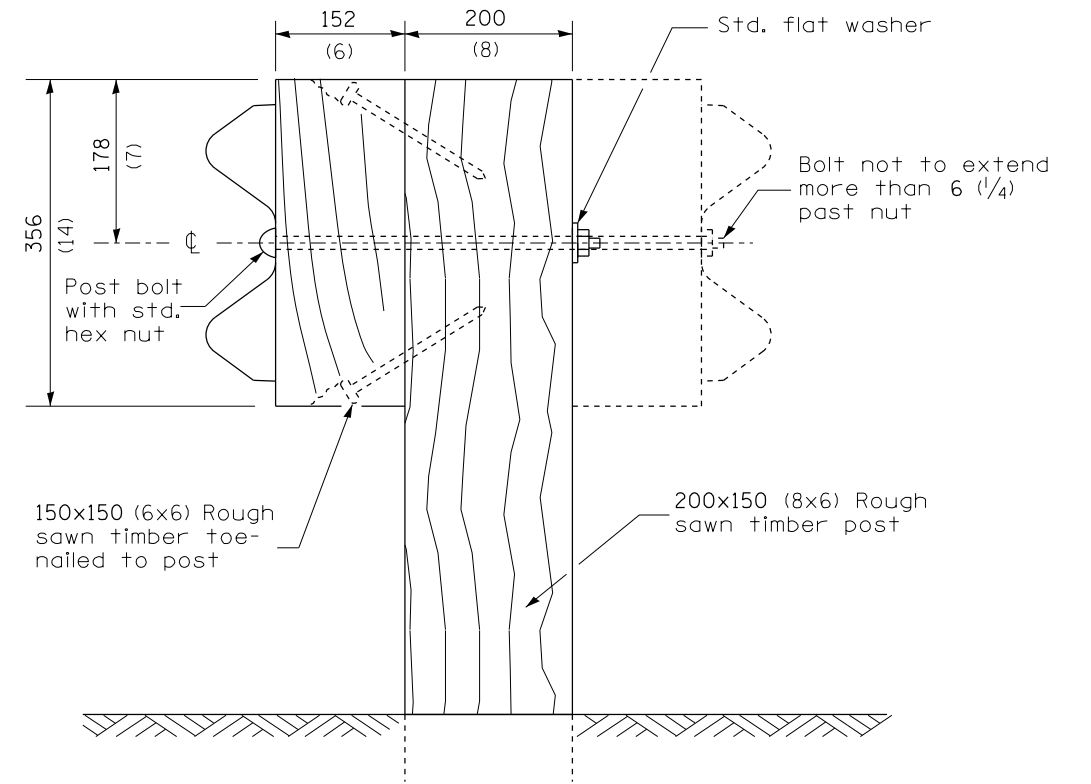
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	8	20
			CONTRACT NO. 78475	
ILLINOIS FED. AID PROJECT				



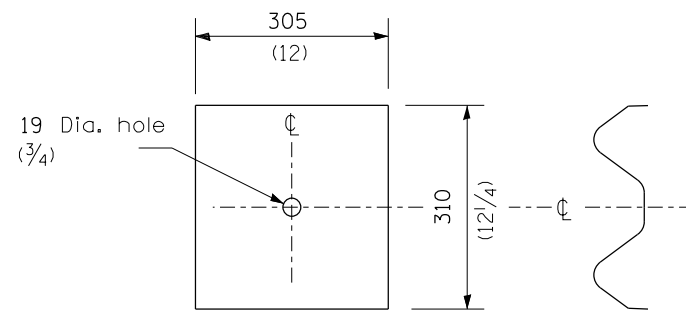
STEEL POST CONSTRUCTION



STEEL BLOCK-OUT DETAIL



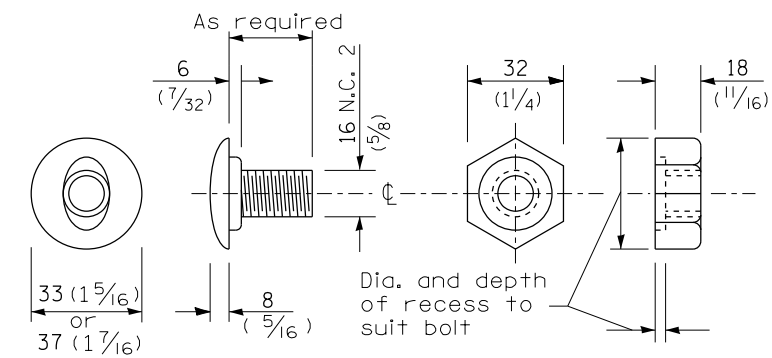
WOOD POST CONSTRUCTION



NOTE

Plate A shall be placed between rail element and block-out at non-splice mounting points only when steel block-outs are used.

PLATE A



POST OR SPLICE BOLT & NUT

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

**STEEL PLATE BEAM
GUARDRAIL**

(Sheet 2 of 4)

STANDARD 630001-06

FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -
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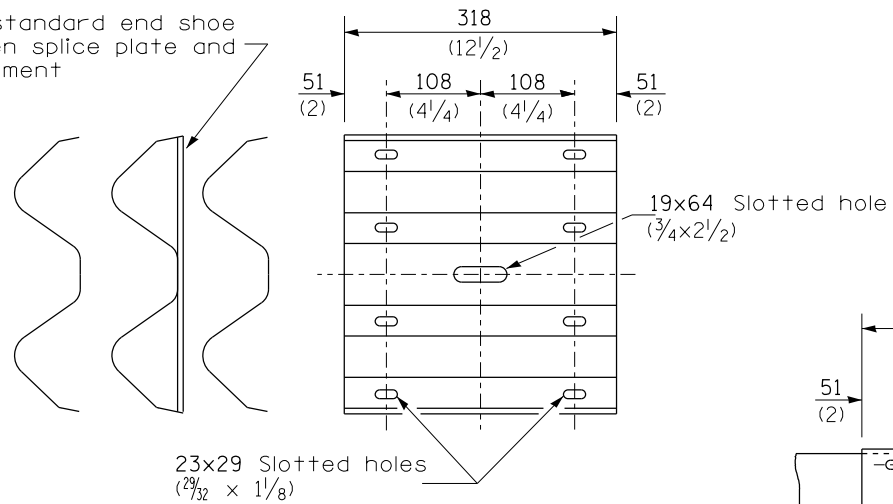
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GUARDRAIL STANDARDS PRIOR
TO JANUARY 1, 2007**

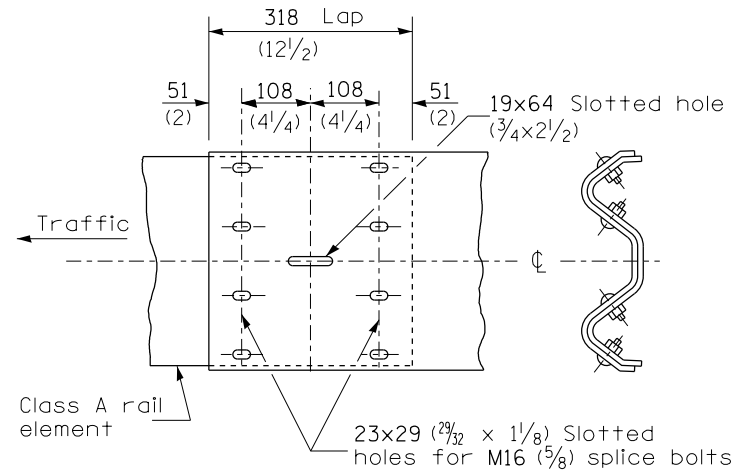
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	9	20
			CONTRACT NO. 78475	
ILLINOIS FED. AID PROJECT				

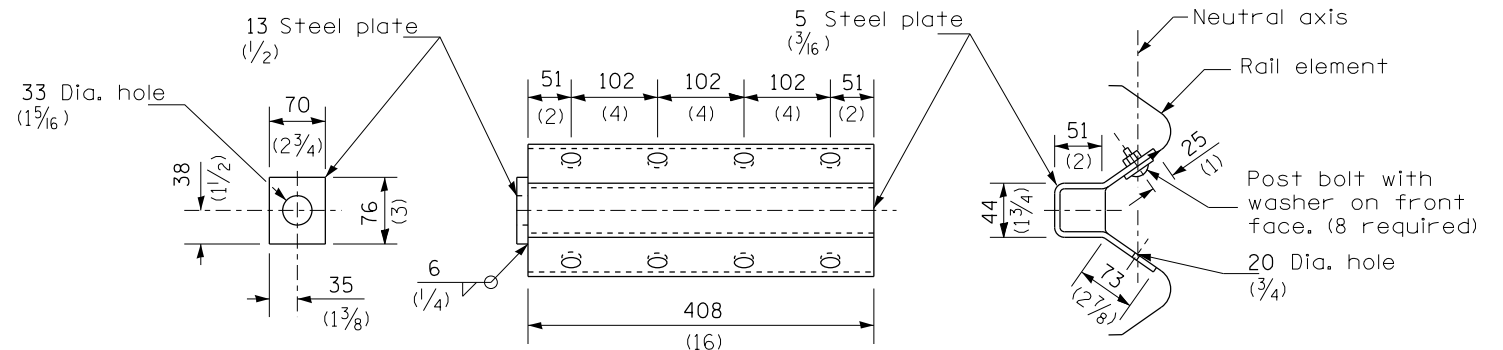
Place standard end shoe between splice plate and rail element



SPLICE PLATE

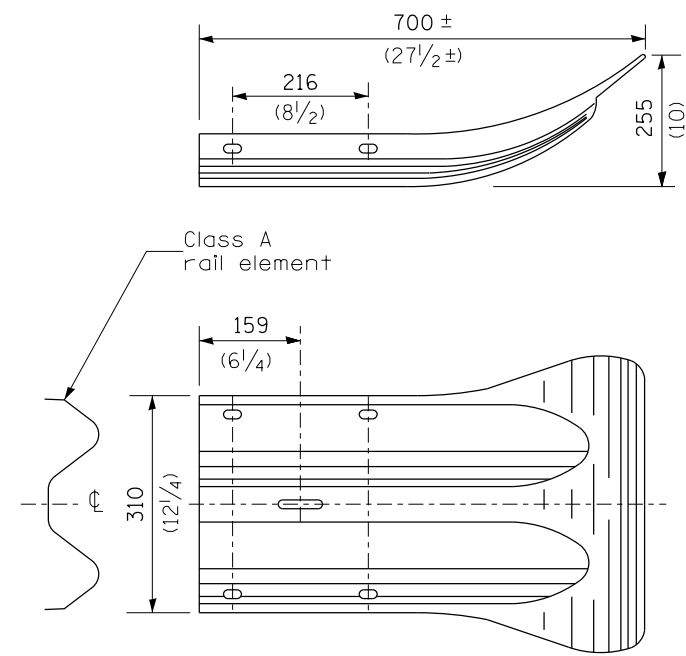


RAIL ELEMENT SPLICE

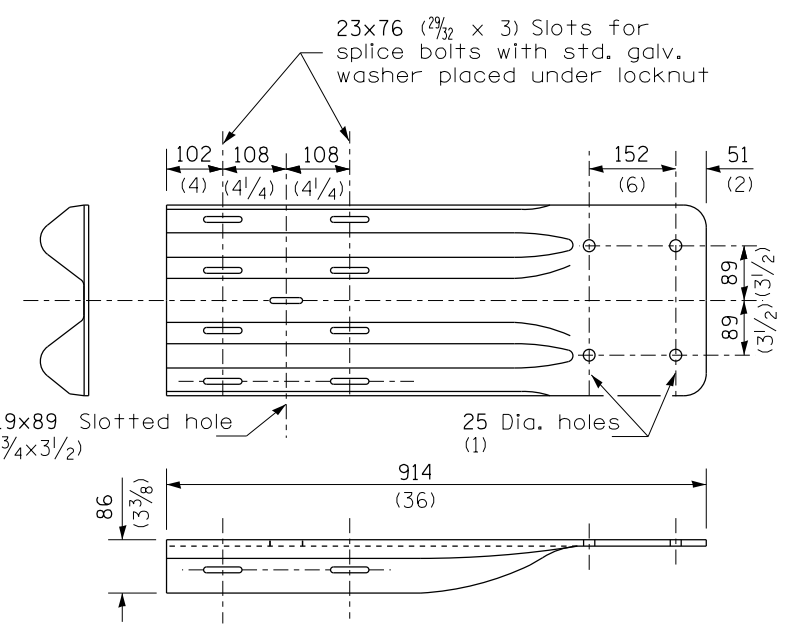


NOTE
Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

ANCHOR PLATE T DETAILS



END SECTION



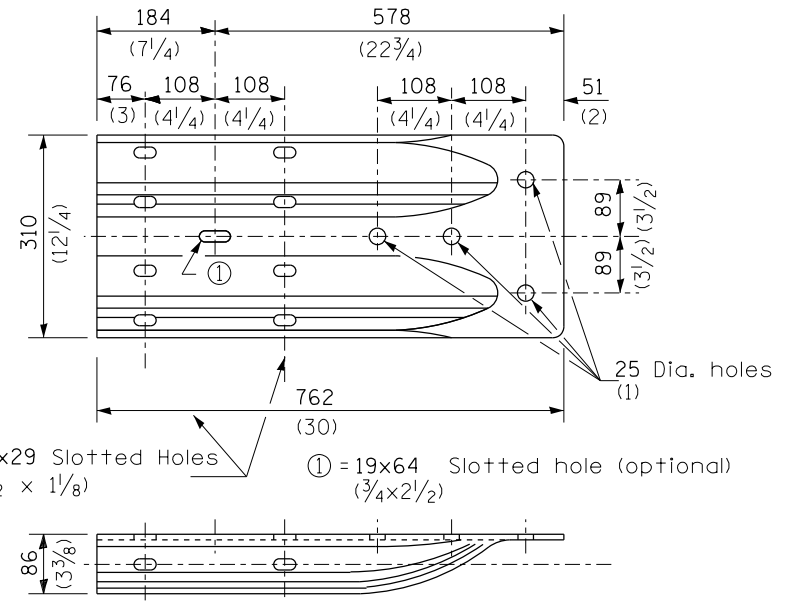
NOTE

When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

END SHOE



ALTERNATE END SHOE

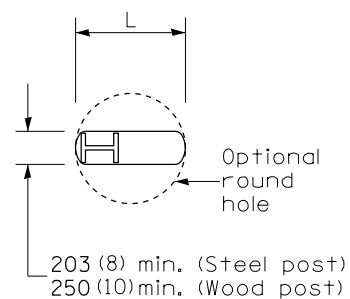
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

STEEL PLATE BEAM GUARDRAIL

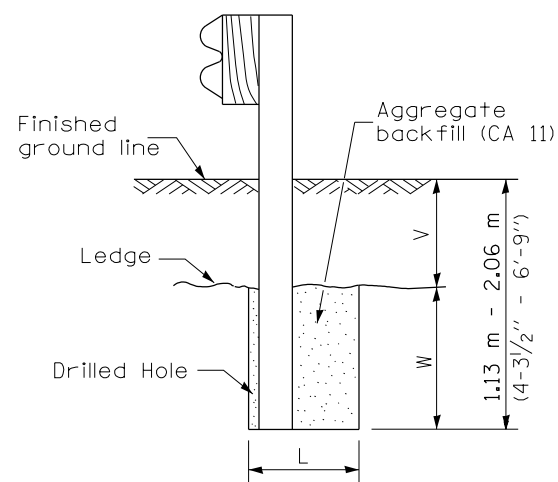
(Sheet 3 of 4)

STANDARD 630001-06

FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GUARDRAIL STANDARDS PRIOR TO JANUARY 1, 2007				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.			
Default	Plot Scale = 26.0000' / in.	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.	VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	10	20
	PLOT DATE = 5/13/2015	CHECKED -	REVISED -						CONTRACT NO. 78475							
		DATE -	REVISED -						ILLINOIS FED. AID PROJECT							



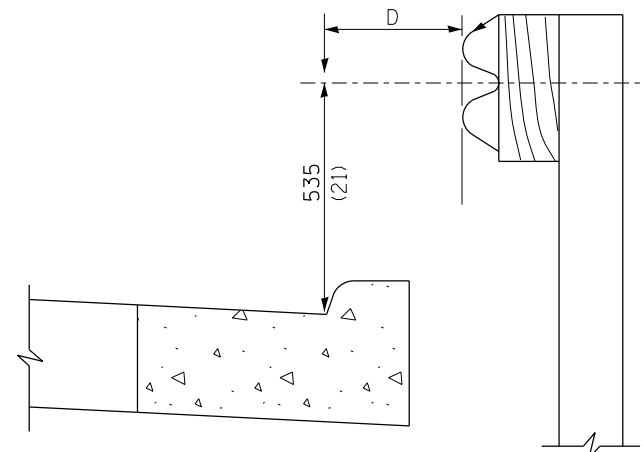
PLAN



Note:
Ledge line is top of rock ledge or hard slag fill.

ELEVATION

FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED

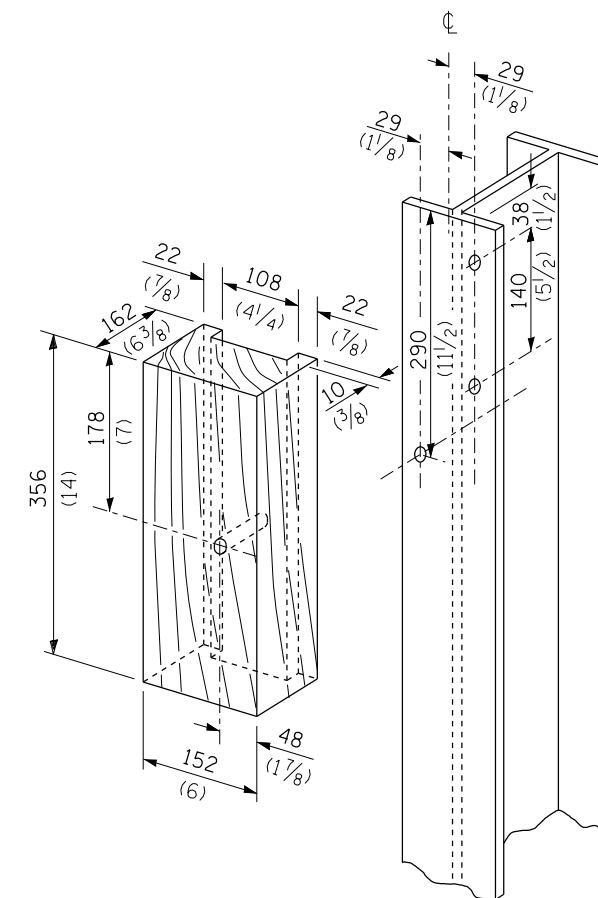


Note:

If it is necessary for D to be more than 300 (12) and less than 3.0 m (10'-0") type M-5 (M-2) curb and gutter (Std. 606001) shall be used in front of and in advance of the guardrail.

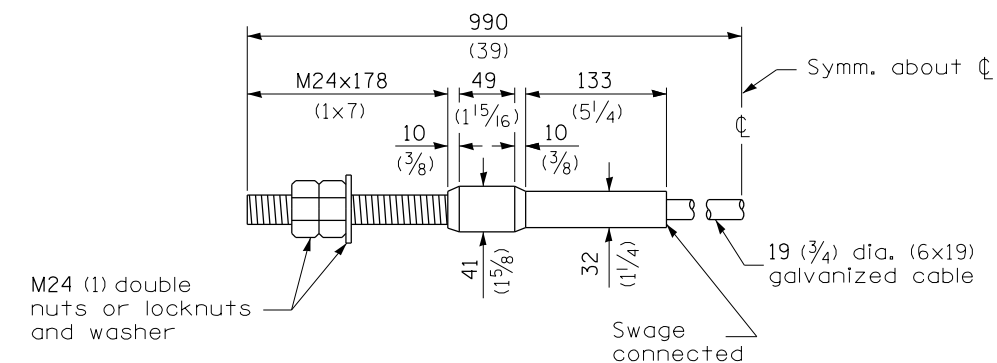
GUARDRAIL PLACED BEHIND CURB

(D = 0 desirable to 300 (12) maximum)



WOOD BLOCK-OUT AND STEEL POST DETAILS

V	W	L	
		Steel Post	Wood Post
0 - 460 (0 - 18)	610 (24)	530 (21)	580 (23)
>460 - 825 (>18 - 41.5)	305 (12)	203 (8)	250 (10)
>825 - 1.13 m (>41.5 - 53.5)	305 - 0 (12 - 0)	203 (8)	250 (10)



CABLE ASSEMBLY

(18,100 kg (40,000 lbs.) min. breaking strength)
Tighten to taut tension.

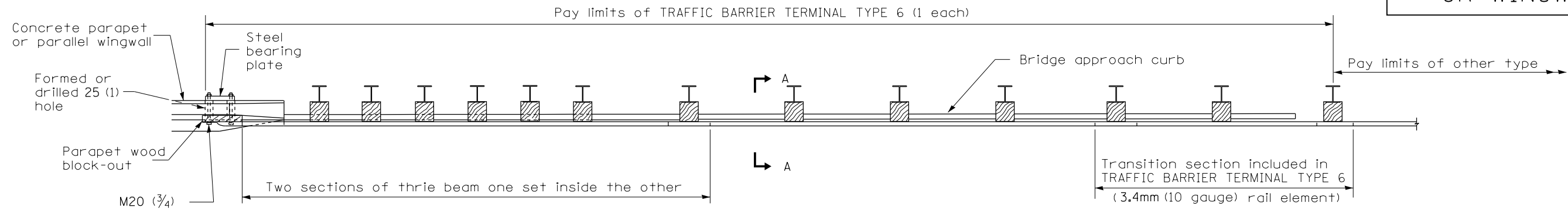
STEEL PLATE BEAM GUARDRAIL

(Sheet 4 of 4)

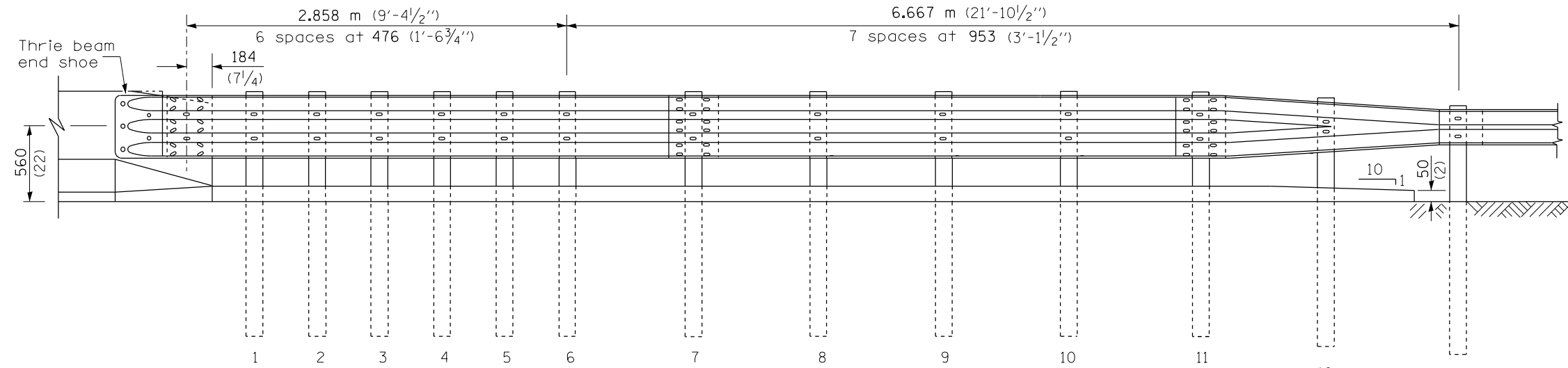
STANDARD 630001-06

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

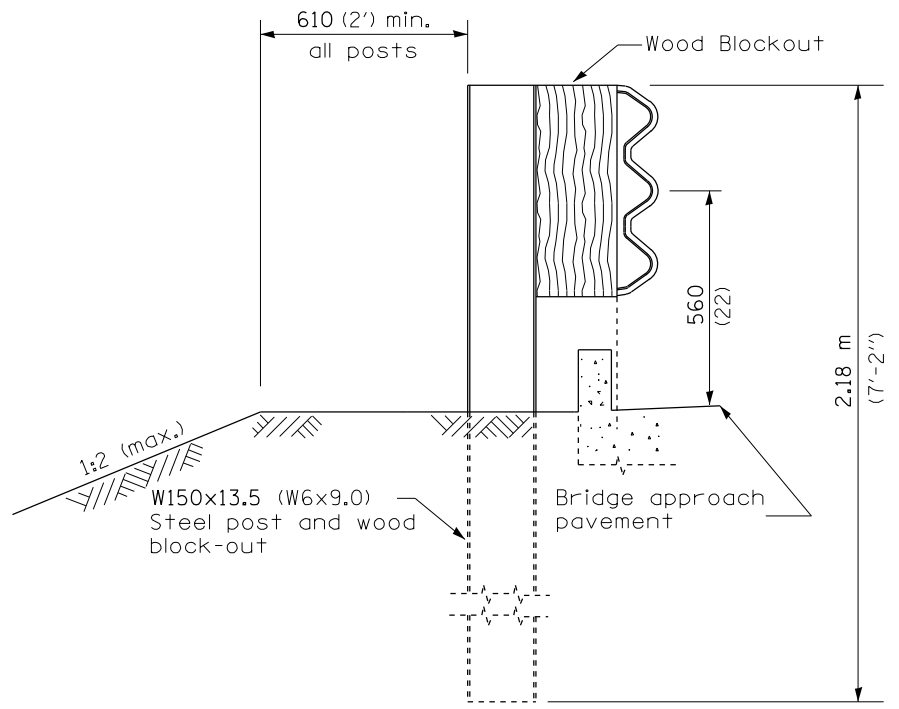
PARAPET
OR WINGWALL



PLAN



ELEVATION



SECTION A-A

GENERAL NOTES

- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- See Standard 420401 for details of bridge approach pavement.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in millimeters (inches) unless otherwise shown.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER
TERMINAL, TYPE 6

Sheet 1 of 3

STANDARD 631031-05

FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -
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	PLOT DATE = 5/13/2015	DATE -	REVISED -

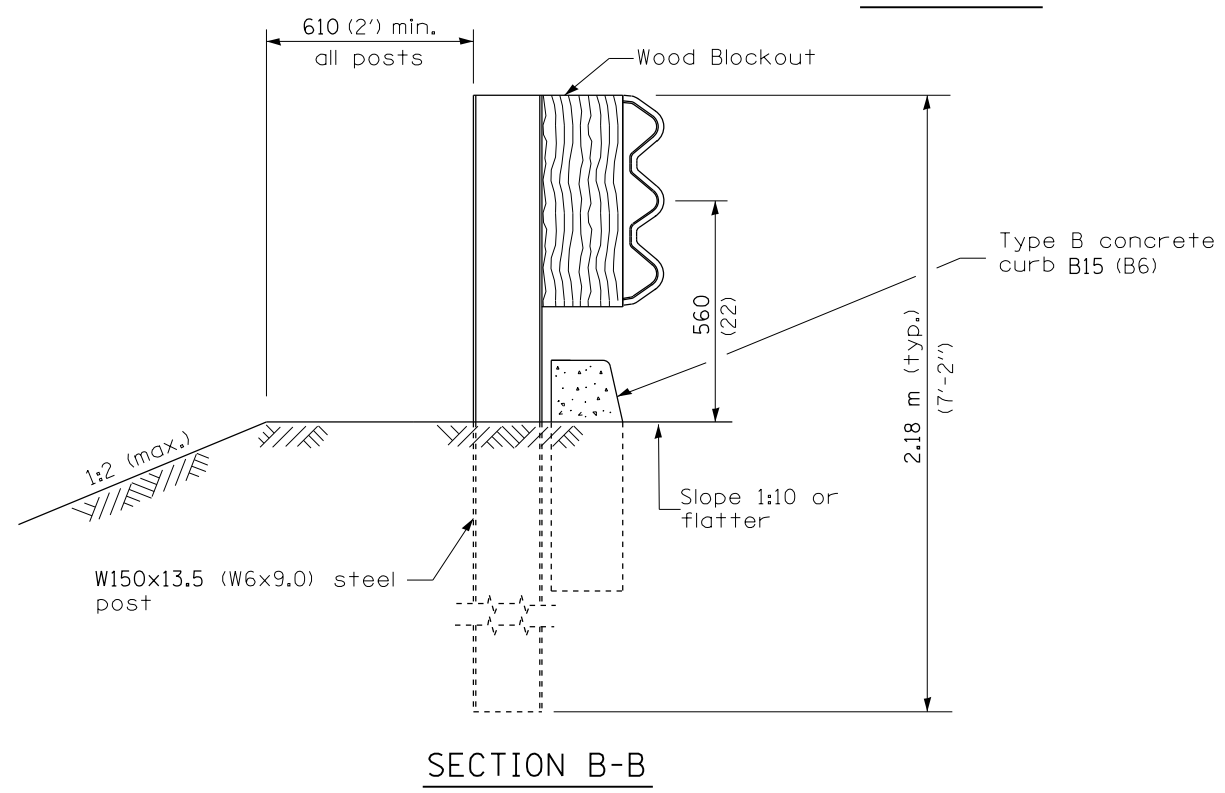
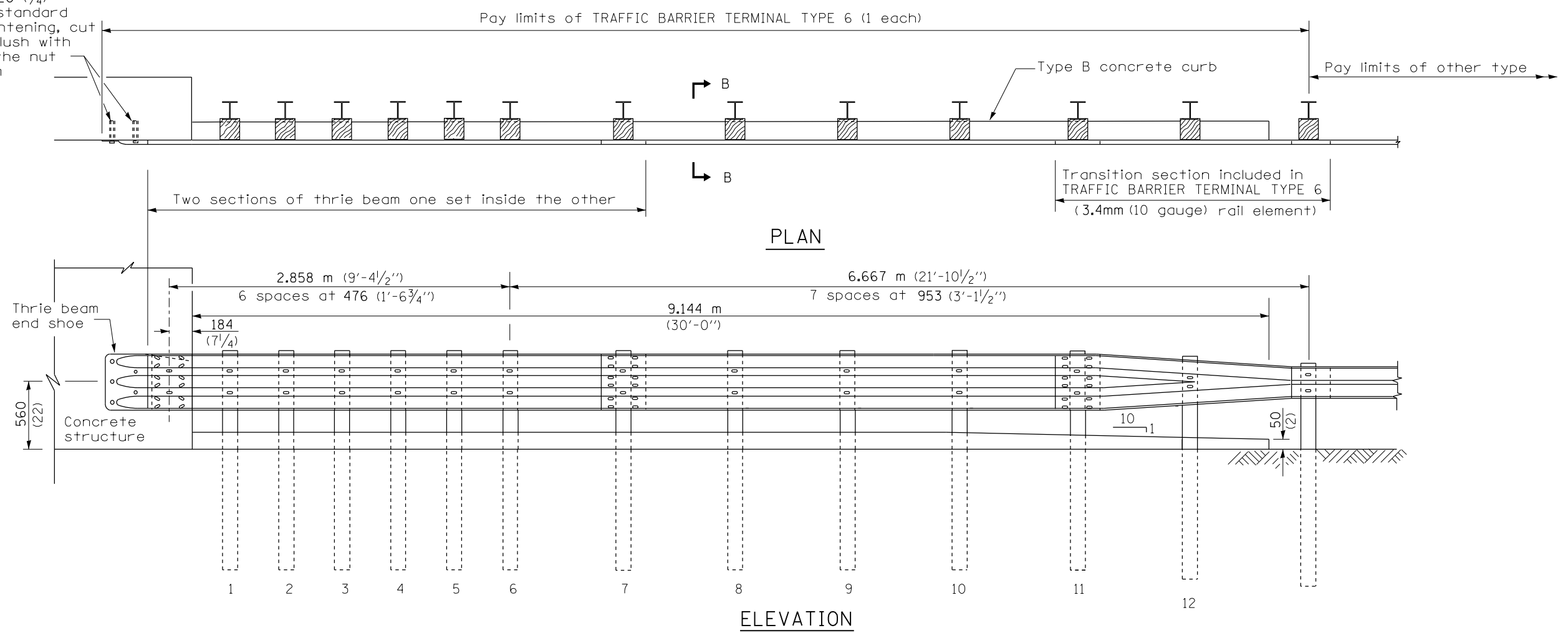
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC BARRIER TERMINAL, TYPE 6
INSTALLED PRIOR TO JANUARY 1, 2007

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	12	20
			CONTRACT NO. 78475	
ILLINOIS FED. AID PROJECT				

5 Epoxy grouted M20 (¾") anchor bolts with standard washers. After tightening, cut the anchor bolts flush with nuts, and damage the nut to prevent it from loosening.



THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER TERMINAL, TYPE 6
Sheet 2 of 3

STANDARD 631031-05

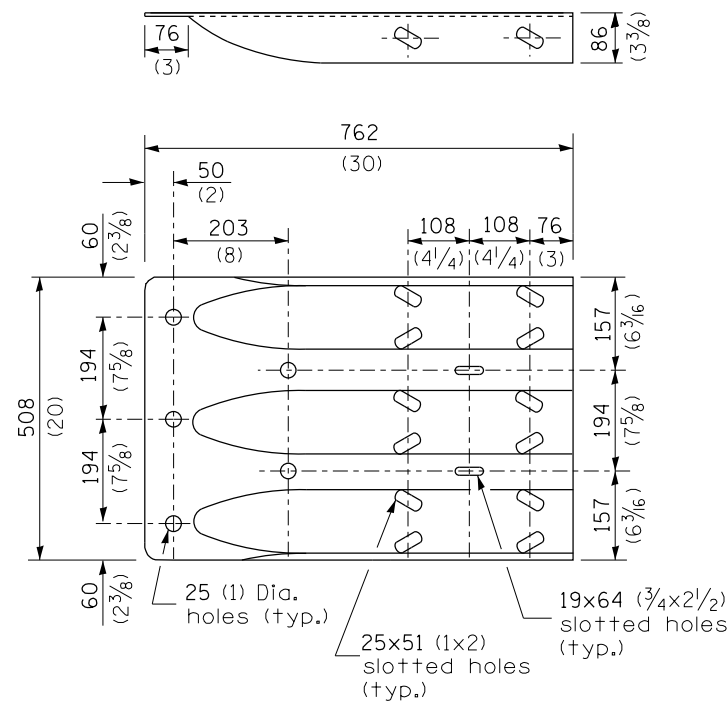
FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -
c:\pwork\work\poidot\poesl\g0111621\guardra.dgn		DRAWN -	REVISED -
Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 5/13/2015	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

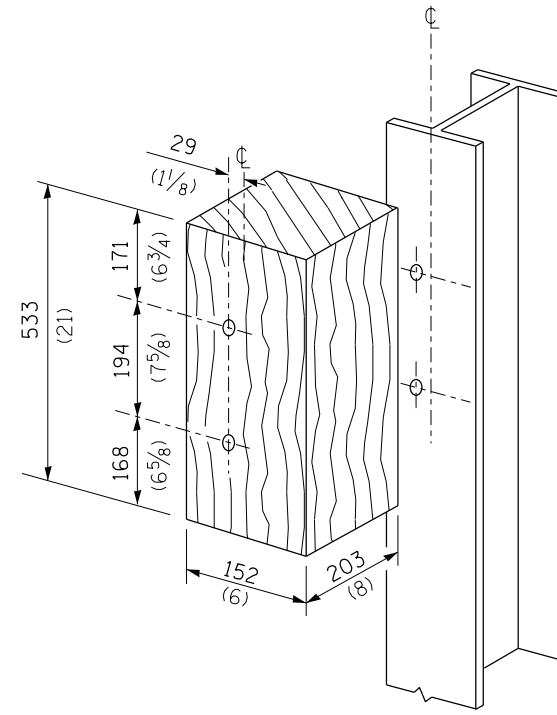
**TRAFFIC BARRIER TERMINAL, TYPE 6
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

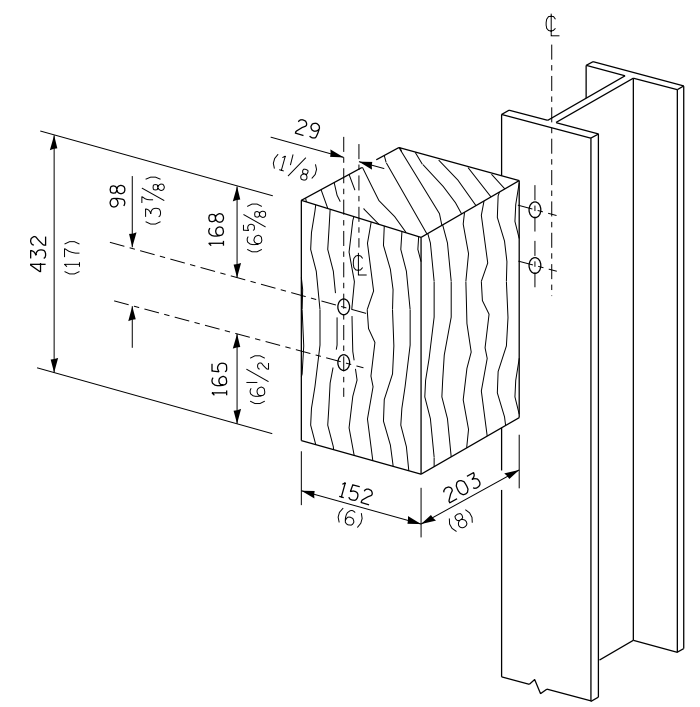
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	13	20
CONTRACT NO. 78475				
ILLINOIS FED. AID PROJECT				



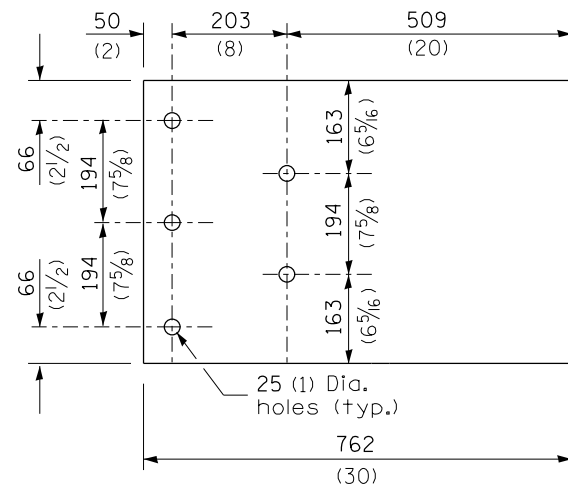
THRIE BEAM END SHOE DETAIL



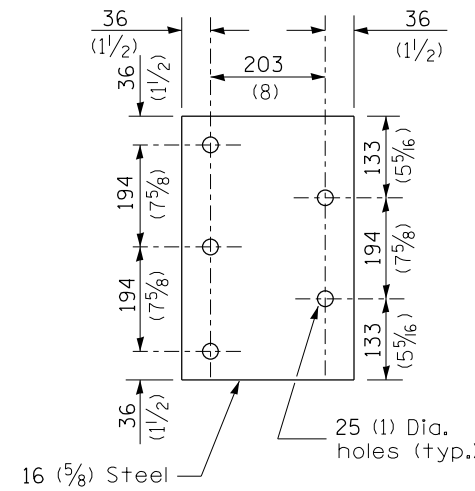
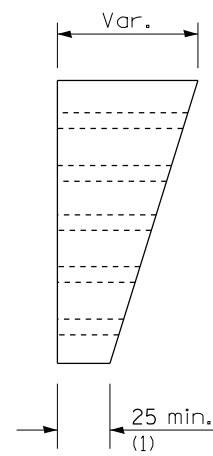
POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL



PARAPET WOOD BLOCK-OUT DETAIL



PARAPET STEEL BEARING PLATE DETAIL

(5 each individual 125x125x16 (5x5x5/8) steel plates with centered 25 (1) holes may be substituted for the plate shown.)

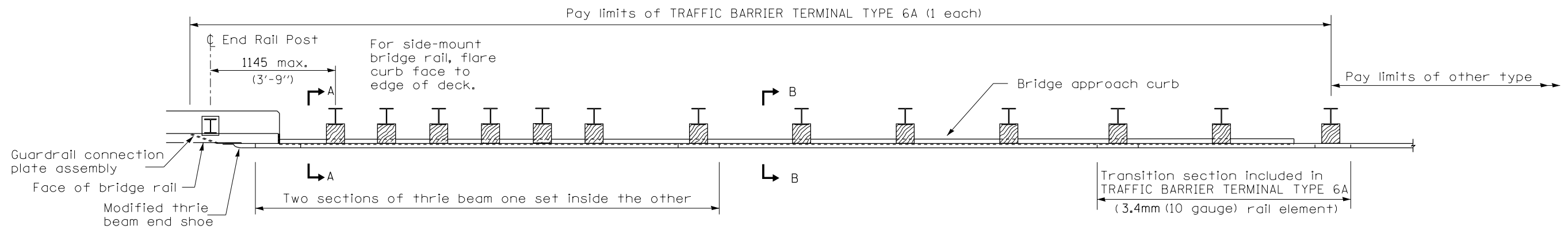
THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER
TERMINAL, TYPE 6

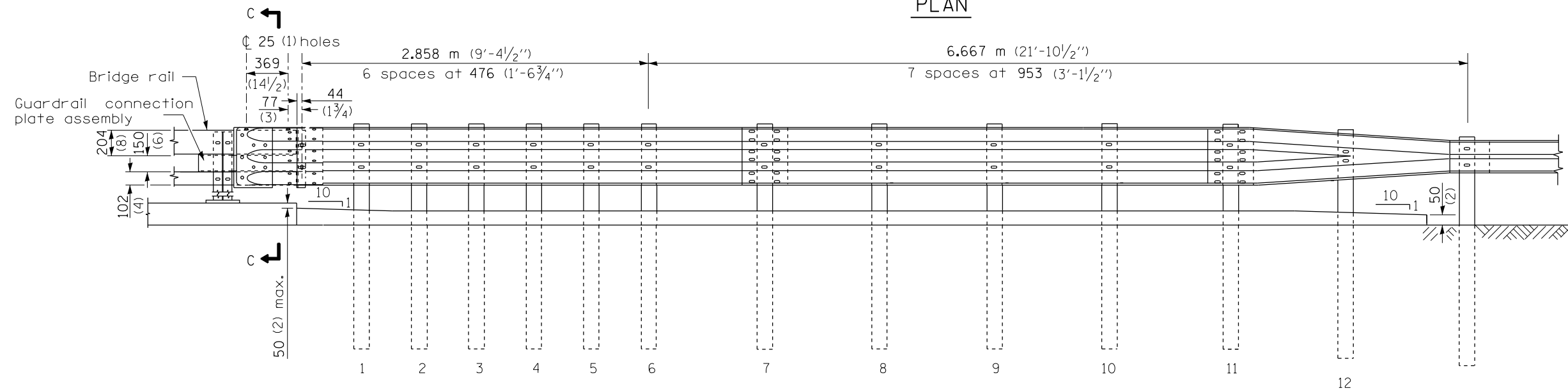
Sheet 3 of 3

STANDARD 631031-05

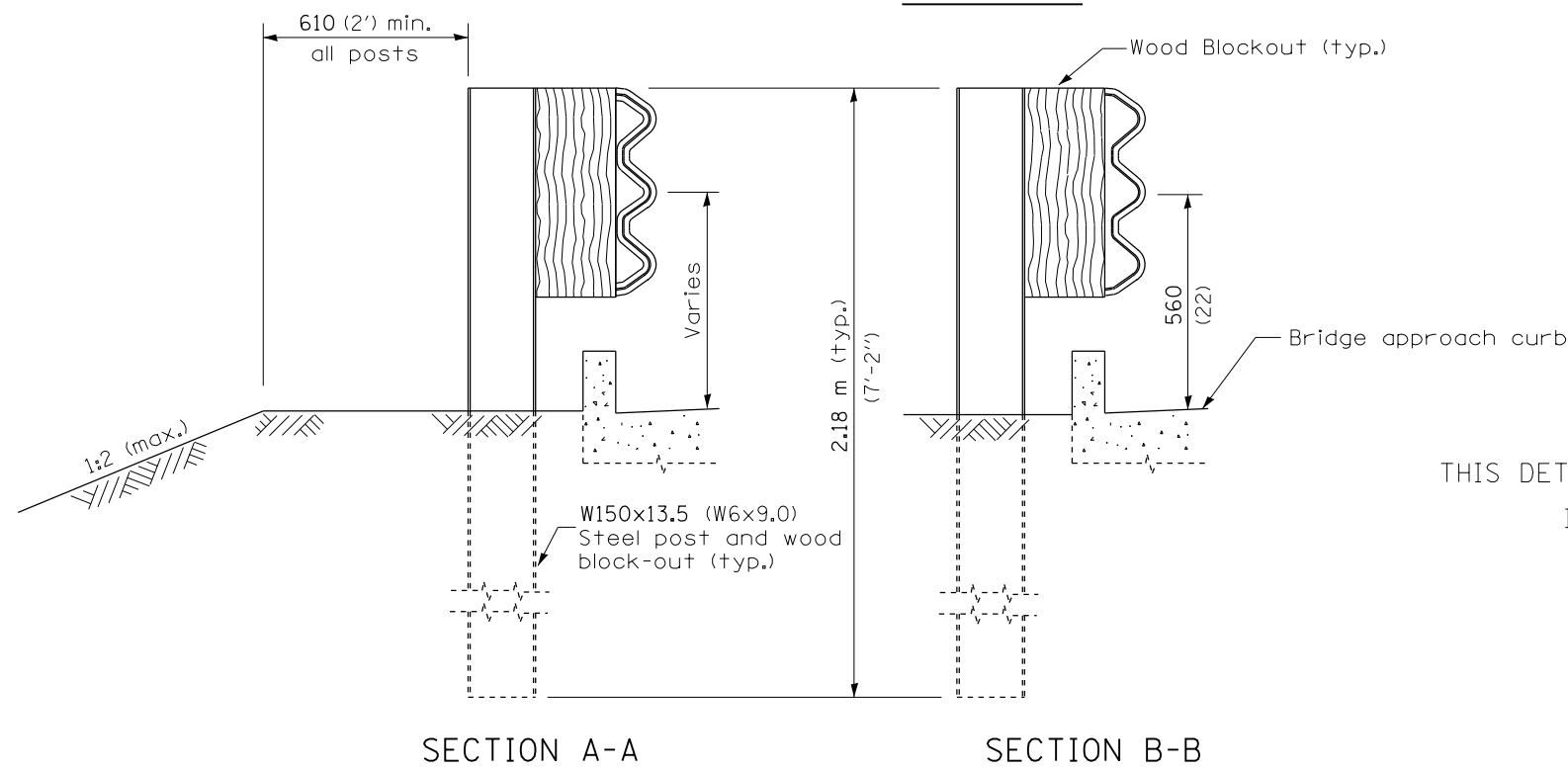
FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6 INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	Plot Scale = 26.0000' / in.	DRAWN -	REVISED -			VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	14	20	
	PLOT DATE = 5/13/2015	CHECKED -	REVISED -			CONTRACT NO. 78475					
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



PLAN



ELEVATION



SECTION A-A

SECTION B-B

GENERAL NOTES

- This standard shows attachment to curb mounted bridge rail. Attachment to side mounted bridge rail is similar.
- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- See Standard 420401 for details of bridge approach pavement.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in millimeters (inches) unless otherwise shown.

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

DATE	REVISIONS
4-1-06	Added a General Note.
1-1-04	Revised bolts and bolt spacing in connection plate & wood blockouts.

TRAFFIC BARRIER TERMINAL, TYPE 6A

Sheet 1 of 3

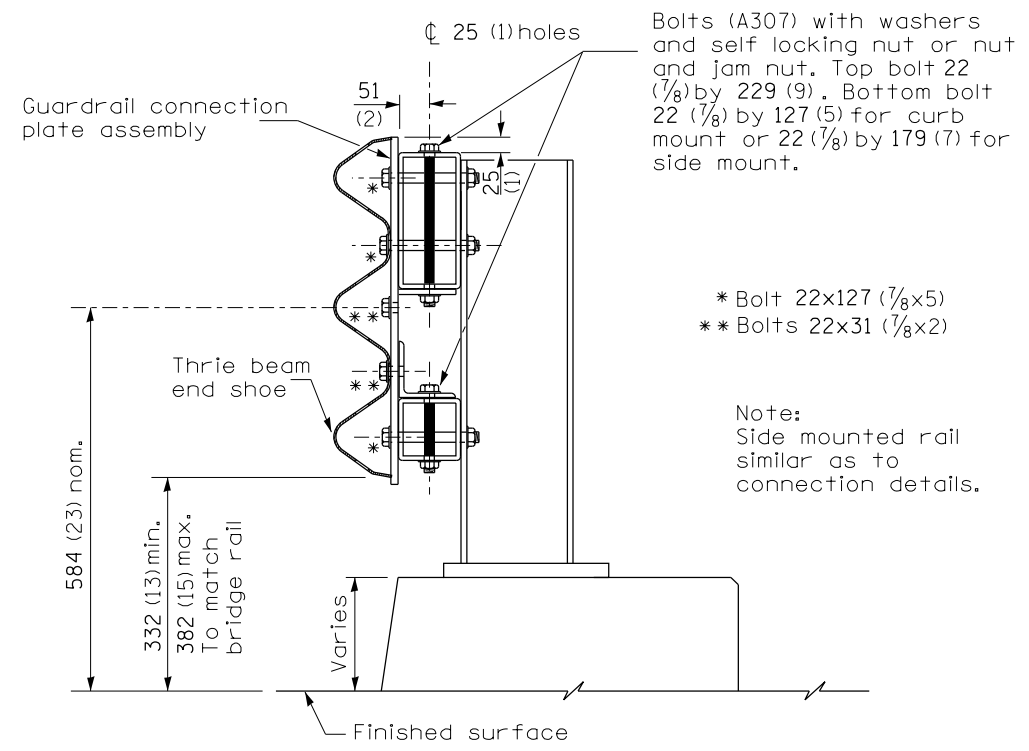
STANDARD 631032-02

FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -
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Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 5/13/2015	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC BARRIER TERMINAL, TYPE 6A INSTALLED PRIOR TO JANUARY 1, 2007			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	15	20
CONTRACT NO. 78475				
ILLINOIS FED. AID PROJECT				

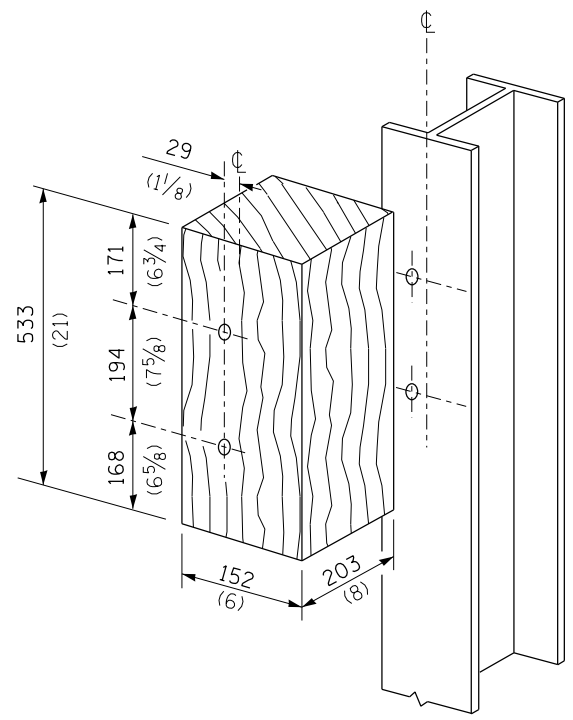


Bolts (A307) with washers and self locking nut or nut and jam nut. Top bolt 22 (7/8) by 229 (9). Bottom bolt 22 (7/8) by 127 (5) for curb mount or 22 (7/8) by 179 (7) for side mount.

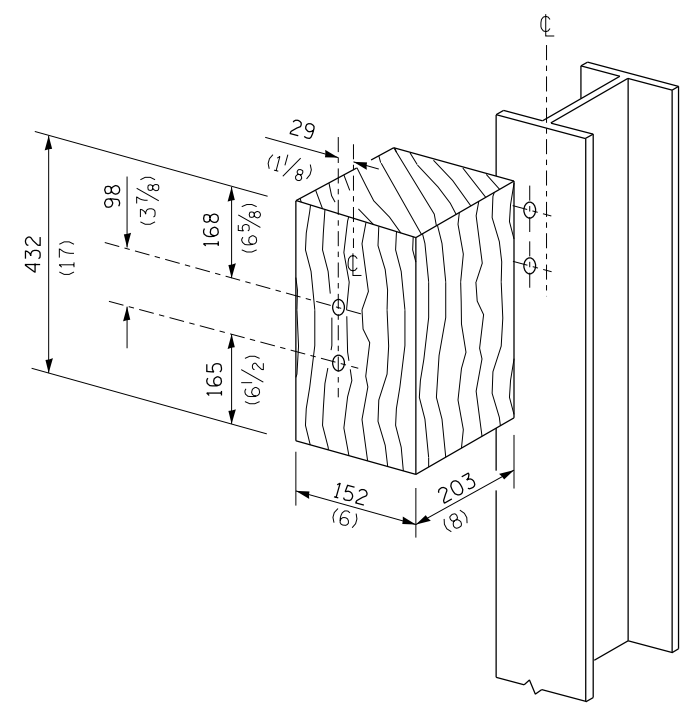
- * Bolt 22x127 (7/8x5)
- ** Bolts 22x31 (7/8x2)

Note:
Side mounted rail similar as to connection details.

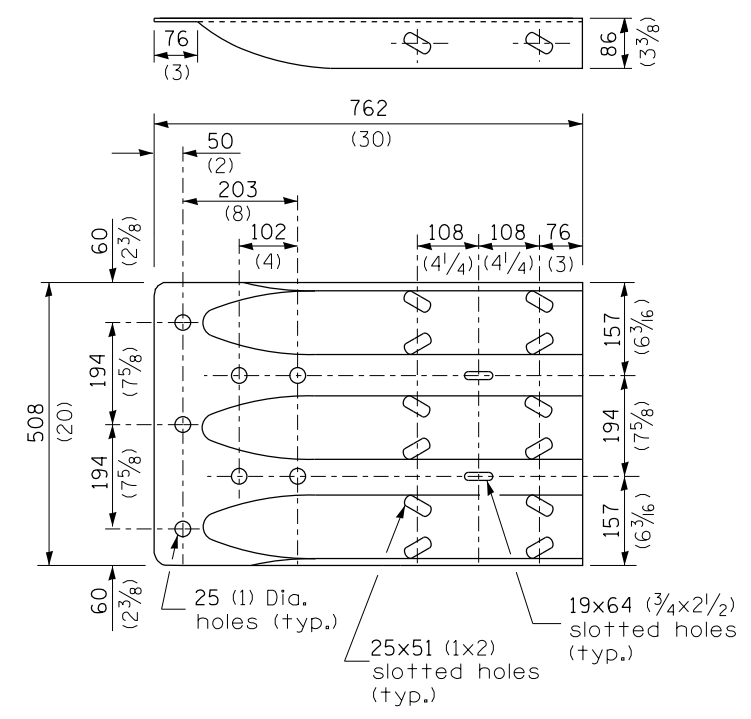
SECTION C-C



POSTS 1-11 WOOD BLOCKOUT DETAIL



POST 12 WOOD BLOCKOUT DETAIL

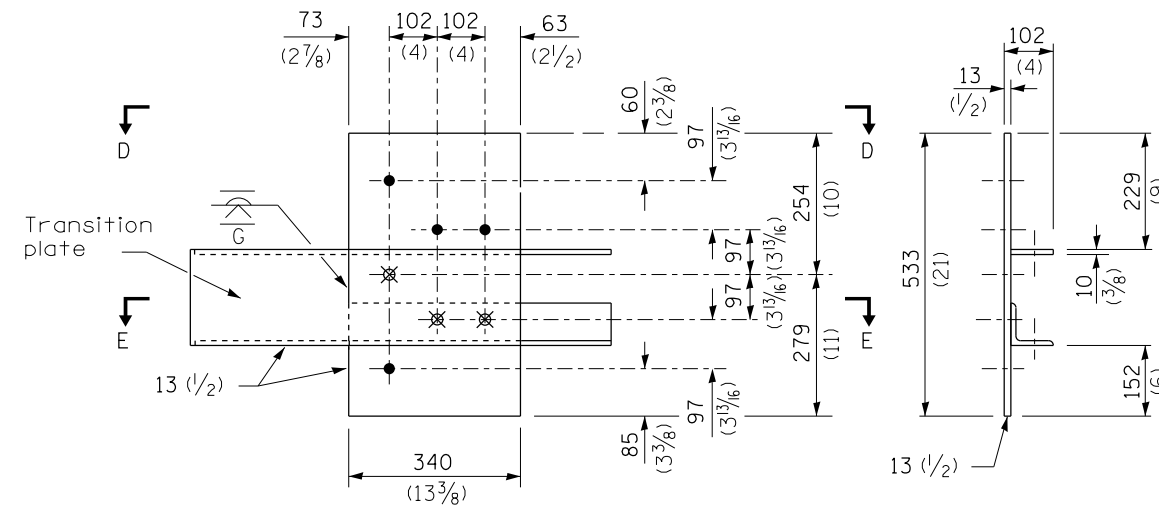


MODIFIED THRIE BEAM END SHOE DETAIL

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER TERMINAL, TYPE 6A
Sheet 2 of 3
STANDARD 631032-02

FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER TERMINAL, TYPE 6A INSTALLED PRIOR TO JANUARY 1, 2007	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 78475					
	PLOT DATE = 5/13/2015	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

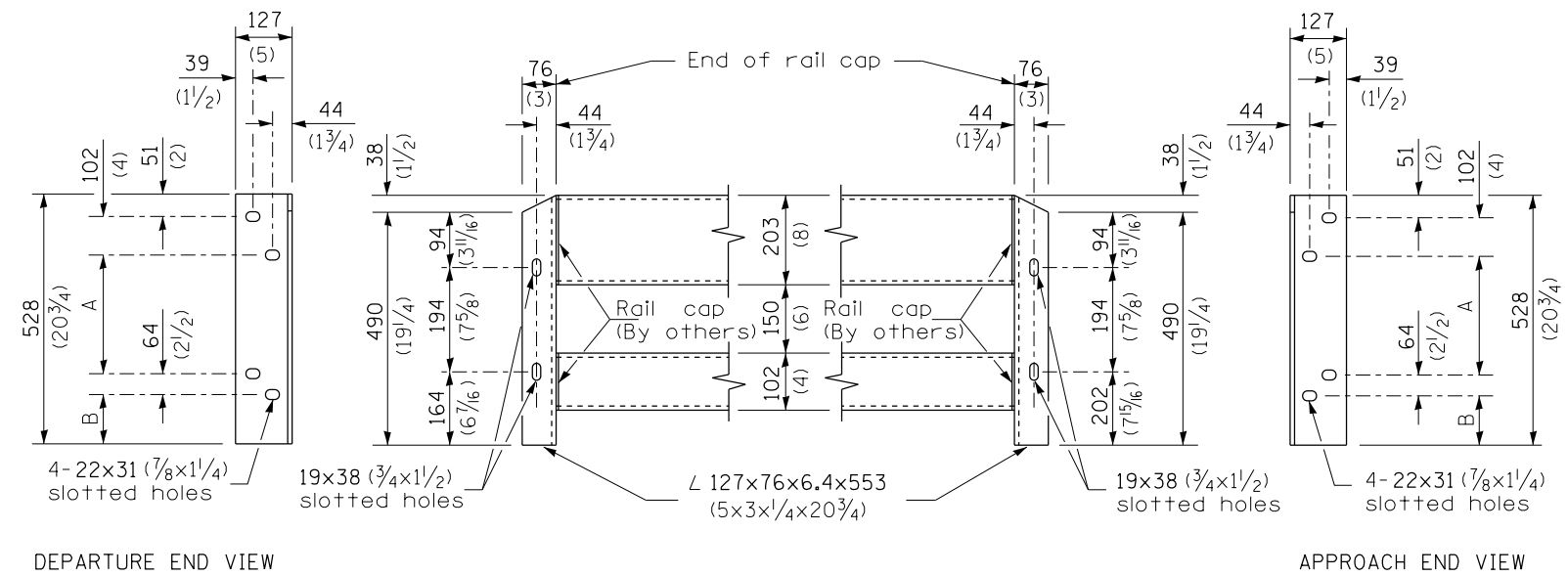
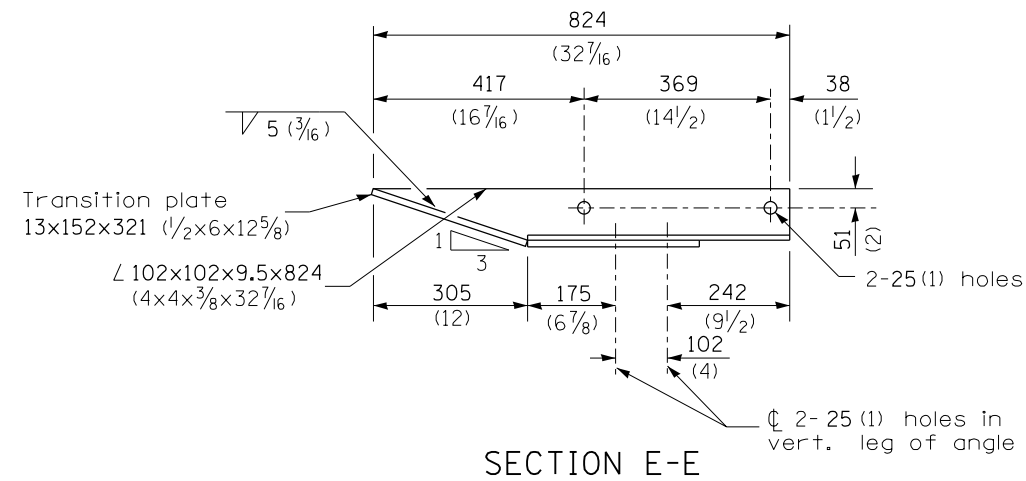
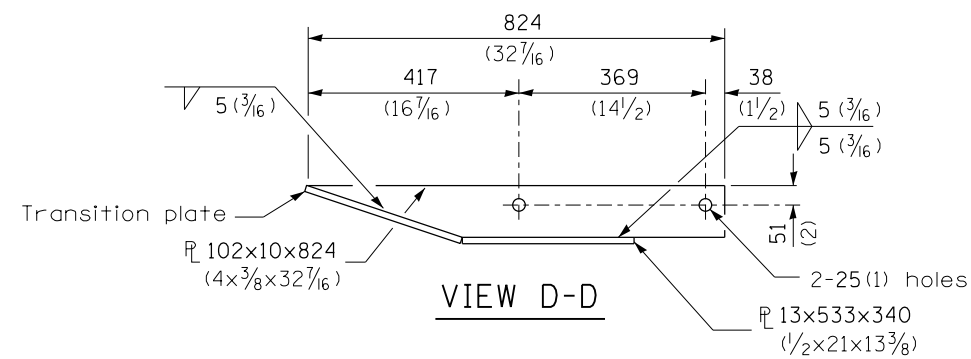


- ϕ 4-25 (1) holes for 22 (7/8) H.S. bolts and nuts
- ⊗ Drill and tap 3 holes for 22 (7/8) H.S. bolts.

LEGEND

Dimensions	A	B
For Curb Mounted Rail	222 (8 3/4)	89 (3 1/2)
For Side Mounted Rail	247 (9 3/4)	64 (2 1/2)

GUARDRAIL CONNECTION PLATE ASSEMBLY DETAILS
(Mirror for opposite end)



CONNECTION ANGLES

(Install angles to rail caps using 19 (5/8) washers and self-locking nuts or nuts and jam nuts, to be provided by others)

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER TERMINAL, TYPE 6A

Sheet 3 of 3

STANDARD 631032-02

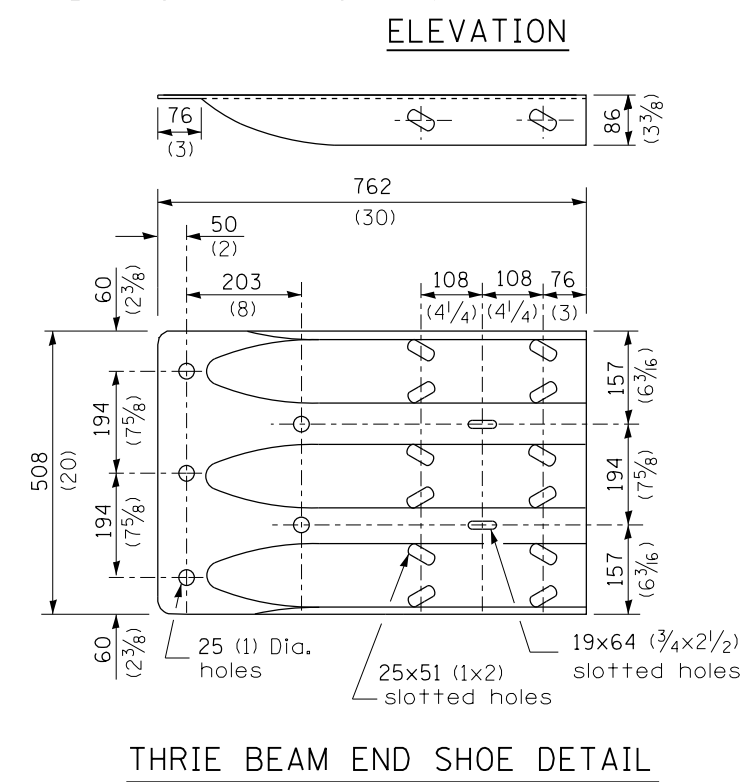
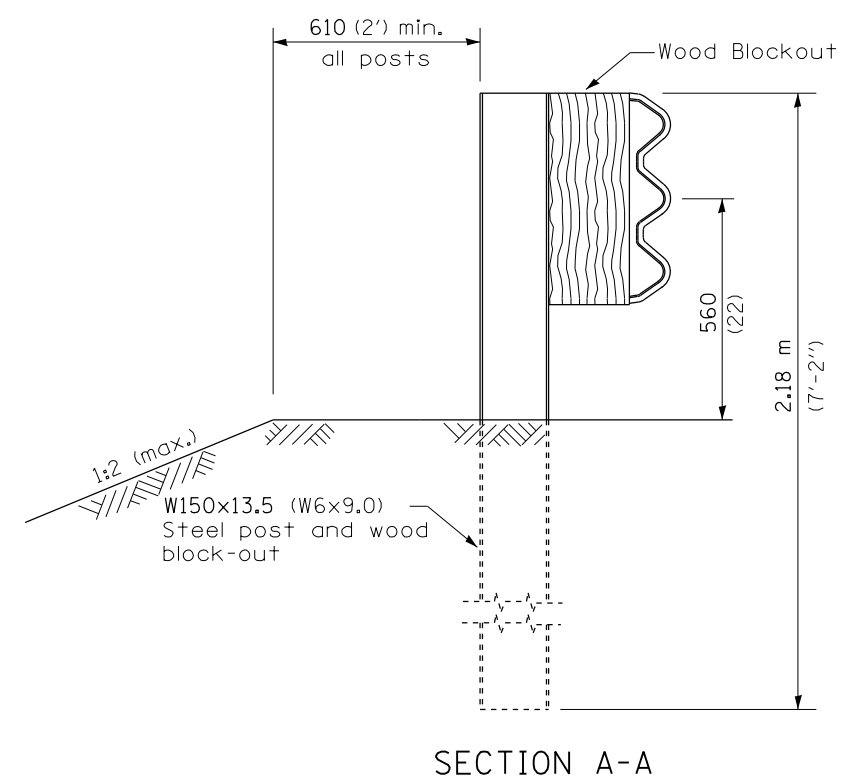
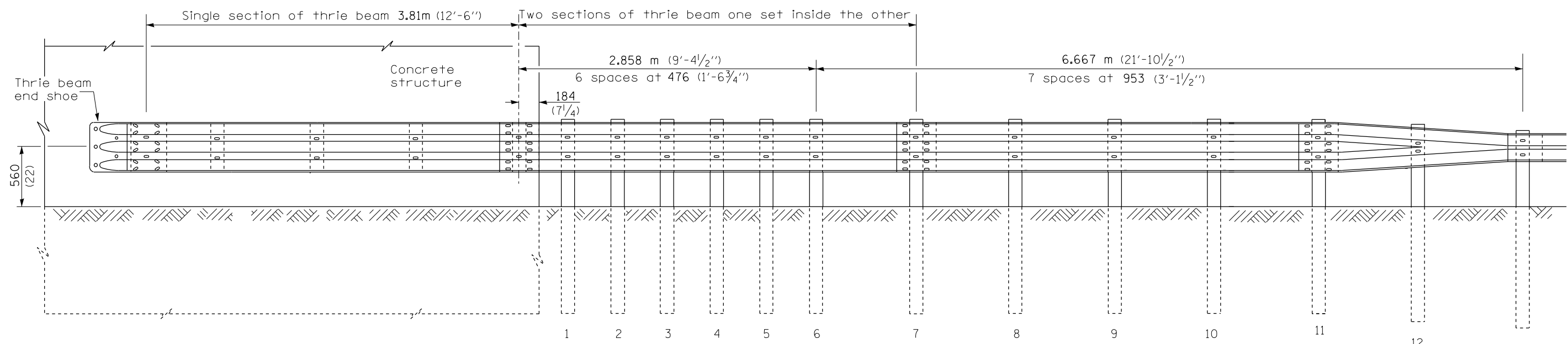
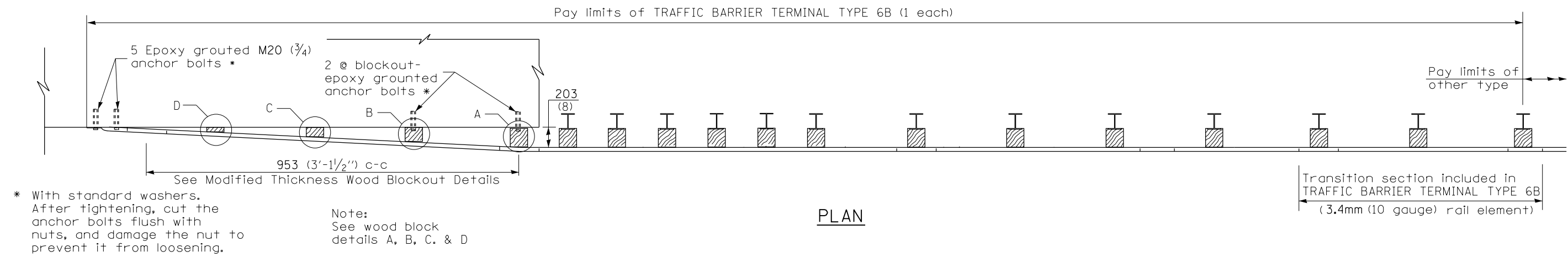
FILE NAME =	USER NAME = poesl	DESIGNED -	REVISED -
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Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 5/13/2015	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC BARRIER TERMINAL, TYPE 6A
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	17	20
CONTRACT NO. 78475				
ILLINOIS FED. AID PROJECT				



THIS DETAIL IS APPLICABLE TO THE GUARDRAIL INSTALLED PRIOR TO JANUARY 1, 2007.

GENERAL NOTES

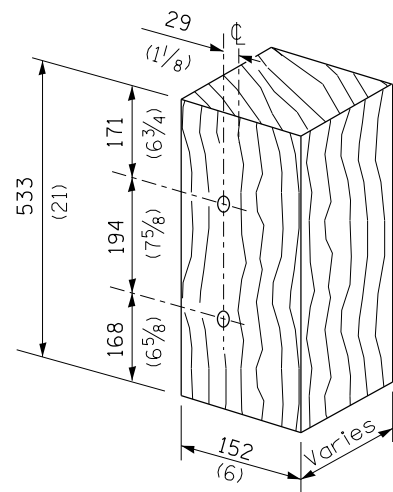
- See Standard 630001 for details of guardrail not shown.
- Thrie beam rail shall be bolted to block-out at all posts.
- All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
- All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC BARRIER TERMINAL, TYPE 6B

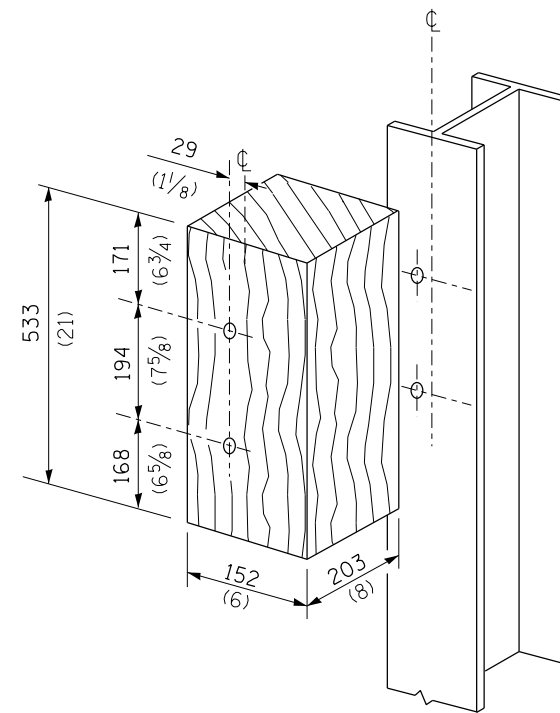
Sheet 1 of 2

STANDARD 631033-01

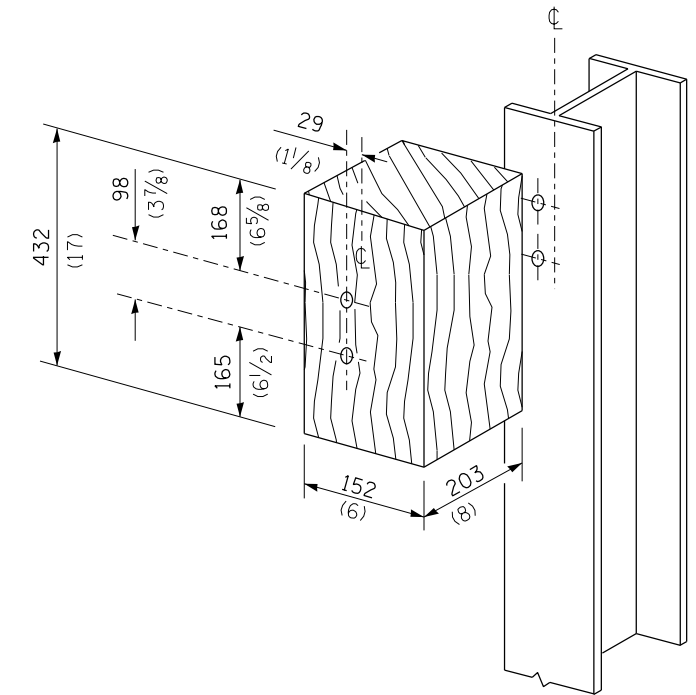
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Default	et:\pw\work\p1dot\poesl\d0111621\guardrail.dgn	DRAWN -	REVISED -			VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	18	20	
	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 78475					
	PLOT DATE = 5/13/2015	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					



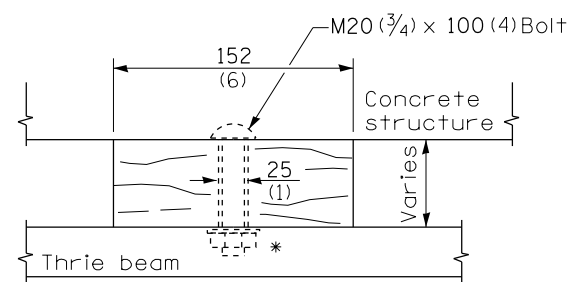
MODIFIED THICKNESS WOOD BLOCKOUT DETAIL



POSTS 1-11 WOOD BLOCKOUT DETAIL

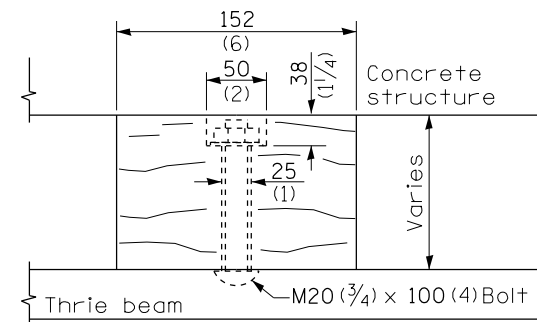


POST 12 WOOD BLOCKOUT DETAIL

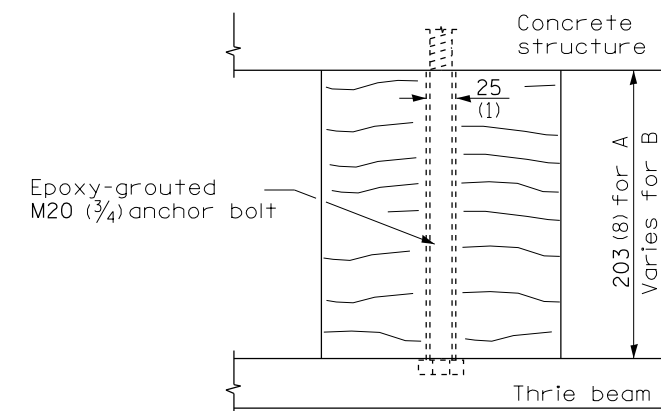


WOOD BLOCKOUT D

Bolt to thrie beam with M20 (3/4) by 100 (4) bolt, washer & nut. Reverse direction of insertion. *



WOOD BLOCKOUT C



WOOD BLOCKOUT A & B

THIS DETAIL IS APPLICABLE TO THE GUARDRAIL
INSTALLED PRIOR TO JANUARY 1, 2007.

TRAFFIC BARRIER
TERMINAL, TYPE 6B

Sheet 2 of 2

STANDARD 631033-01

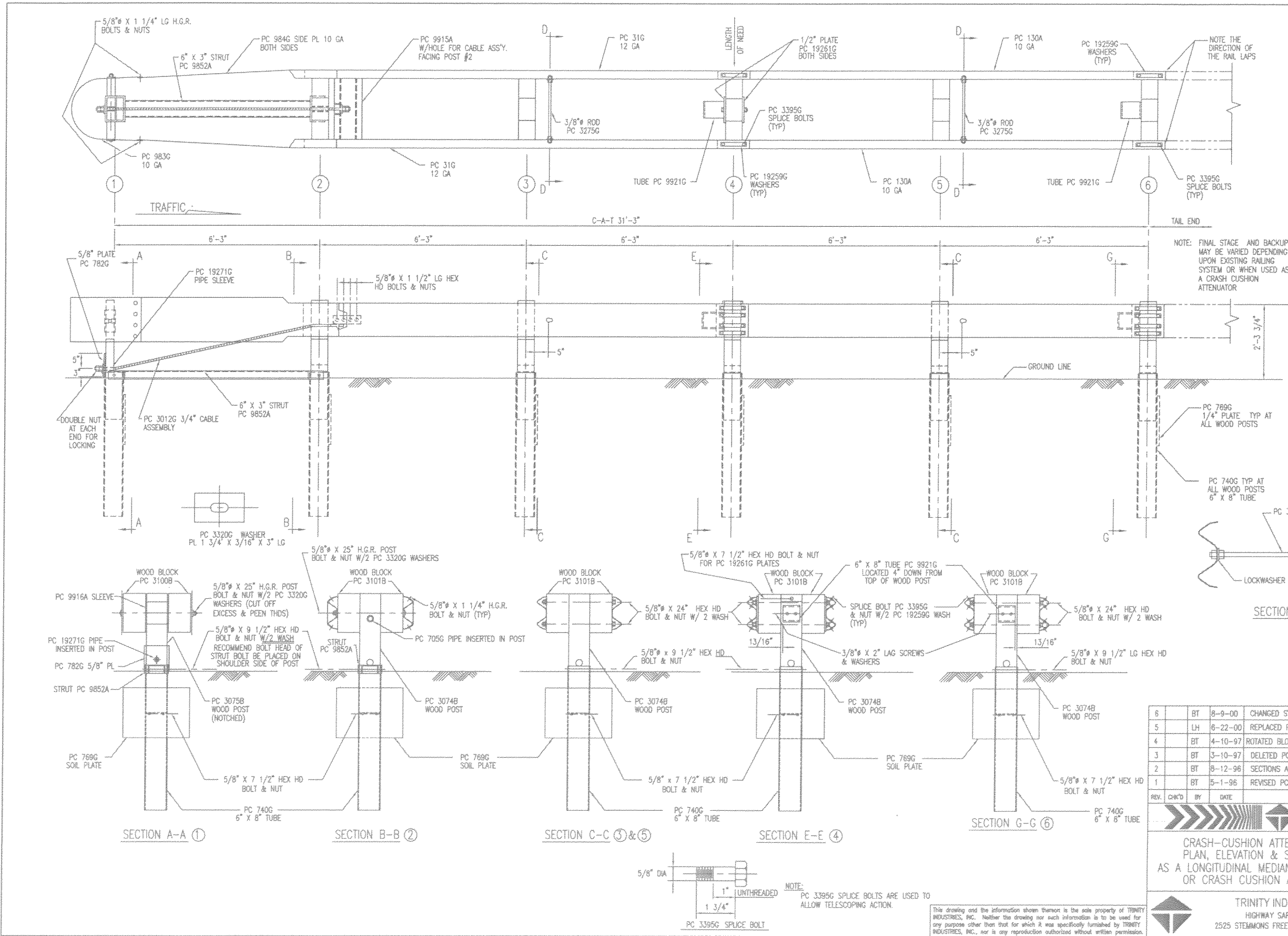
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Default	PLOT SCALE = 26.0000' / in.	CHECKED -	REVISED -
	PLOT DATE = 5/13/2015	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TRAFFIC BARRIER TERMINAL, TYPE 6B
INSTALLED PRIOR TO JANUARY 1, 2007**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 GUARDRAIL REPAIR FY16-1	VARIOUS	19	20
CONTRACT NO. 78475				
ILLINOIS FED. AID PROJECT				

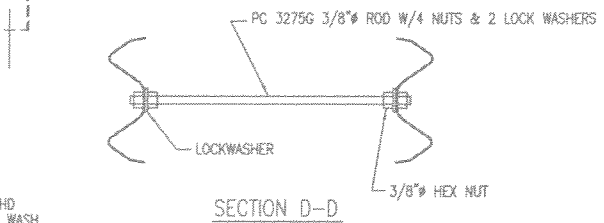


C-A-T BILL OF MATERIAL

PRODUCT CODE	QTY	DESCRIPTION
31G	2	12/12/6/0 CAT (GUARDRAIL)
130A	2	10/12/6/5/10/6/5/SP CAT (GUARDRAIL)
705G	1	2" x 5 1/2" PIPE
740G	6	4" TUBE SLEEVE
769G	6	1/4 x 18 x 24 SOIL PLATE
782G	1	5/8" x 8" x 8" BEARING PLATE
983G	1	10/HOSE PLATE/CAT/ROLLED
984G	2	10/SIDE PLATE CAT
3012G	1	CABLE 3/4 x 8/0/DBL SWG
3074B	5	WD 3/6 POST #2, 3, 4, 5, 6 CAT
3075B	1	WD 3/6 POST #1 CAT
3100B	2	WD BLOCK 1'2 #1 CAT
3101B	10	WD BLOCK 1'2 #2-6 CAT
3255G	4	3/8" FLAT WASHER
3263G	4	3/8" x 2" LAG SCREW
3275G	2	3/8" x 24 1/2" RESTRAINT ROD
3300G	20	5/8" FLAT WASHER
3320G	4	3/16" x 1 3/4" x 3" RECT WASHER
3340G	85	5/8" G.R. NUT
3360G	16	5/8" x 1 1/4" G.R. BOLT
3380G	8	5/8" x 1 1/2" HEX BOLT
3395G	32	5/8" x 1 3/4" HEX BOLT CAT
3478G	13	5/8" x 7 1/2" HEX BOLT
3497G	6	5/8" x 9 1/2" HEX BOLT
3650G	2	5/8" x 25" G.R. BOLT
3900G	2	1" FLAT WASHER
3910G	4	1" HEX NUT
4252G	8	3/8" HEX NUT
4258G	4	3/8" LOCK WASHER
4640G	8	5/8" x 24" HEX BOLT
9852A	1	CHANNEL STRUT x 6"-6"
9915A	1	SPACER CHANNEL CAT
9916A	1	10/BENT PLATE SLEEVE
9921G	2	6" SLEEVE 6 x 8
19259G	32	3/16" x 2" x 10" PLATE WASHER
19261G	2	1/2 x 3 x 7 POST PLATE
19271G	1	1" x 2 1/2" PIPE SLEEVE CAT

NOTE: FINAL STAGE AND BACKUP MAY BE VARIED DEPENDING UPON EXISTING RAILING SYSTEM OR WHEN USED AS A CRASH CUSHION ATTENUATOR

NOTE: PC 769G 1/4" PLATE TYP AT ALL WOOD POSTS
PC 740G TYP AT ALL WOOD POSTS 6" X 8" TUBE



REV.	CHK'D	BY	DATE	REMARKS
6	BT	8-9-00		CHANGED SYSTEM HEIGHT, WAS 2'-3"
5	LH	6-22-00		REPLACED PC 766 WITH PC 768, CHANGED TITLE BLOCK
4	BT	4-10-97		ROTATED BLOCK PC 9921 90° AT POST 4 & 6
3	BT	3-10-97		DELETED PC 3072, 3073, 4470, CHG QTY 3074 & 3478
2	BT	8-12-96		SECTIONS A-A & B-B, CORRECTED PIPE SLEEVE PC No
1	BT	5-1-96		REVISED PC No 31G & 130A

C-A-T

CRASH-CUSHION ATTENUATING TERMINAL
PLAN, ELEVATION & SECTIONS FOR USE
AS A LONGITUDINAL MEDIAN BARRIER TERMINAL
OR CRASH CUSHION ATTENUATOR

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY, DALLAS, TX 75207

DRAWN	BT
CHECKED	EN
SCALE	N.T.S.
DATE	7-15-94
ENCL FILE #	SS245-01E
SHT. NO.	E1 OF 1
DRAWING NO.	SS-245
REV.	6